



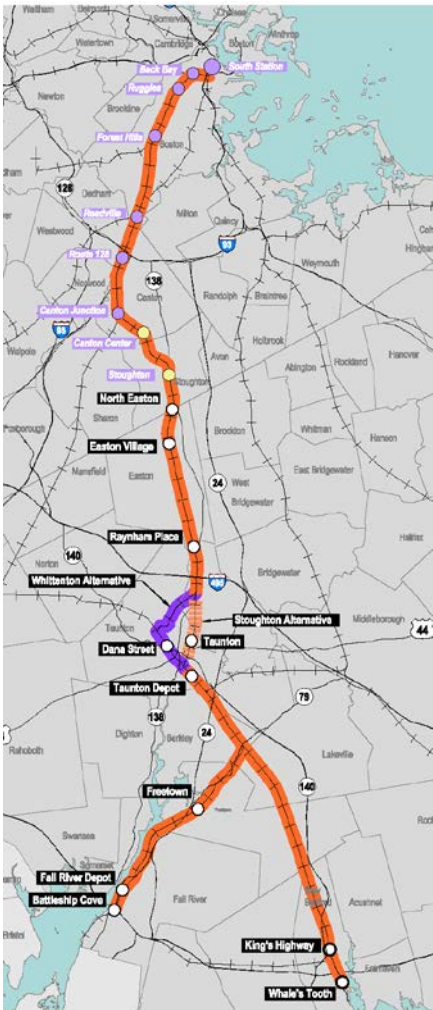
US Army Corps of Engineers  
New England District

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# Final Environmental Impact Statement/ Final Environmental Impact Report on the *South Coast Rail Project* proposed by the **Massachusetts Department of Transportation**

Department of the Army Permit Application Number NAE-2007-00698  
Executive Office of Energy and Environmental Affairs EEA No. 14346



U.S. Army Corps of Engineers  
New England District

August 2013

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**Volume III: Responses to Comments on the DEIS/DEIR**

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## **Introduction**

This volume of the Final Environmental Impact Statement/Final Environmental Impact Report (FEIS/FEIR) for the South Coast Rail project presents comments received on the Draft Environmental Impact Statement/Draft Environmental Impact Report (DEIS/DEIR) during the comment period from March 25, 2011 to May 27, 2011.

Comments on the DEIS/DEIR were received through postal mail, faxes, email and through the project website. In addition comments were received orally and in writing during the public hearings on the DEIS/DEIR. The oral comments were documented in the public hearing transcripts.

Part A of this volume provides the original comment documents (including letters and emails) and the public hearing transcripts side-barred with unique identifying codes for each comment. A table of contents is provided in each section of Part A to facilitate locating specific comments. Part B of this comment response document provides responses to each comment in a table. Part B presents the responses to comments in the same order the original comment documents were presented in Part A. The responses to comments are organized into the categories listed below. Within each category, responses are generally sorted alphabetically by last name or organization name. Public hearing comments and responses are not presented in alphabetical order and instead follow the order in which each speaker's turn occurred during the hearings.

### **Commenter Categories**

- Federal Agencies
- Federal and State Elected Officials
- MEPA Office
- State Agencies
- Regional Organizations
- Municipal Government and Officials
- Private Organizations and Businesses
- Individuals
- Public Hearings



Part A

Original Comment Documents

# Federal Agencies

Page	Name
1	U.S. Department of the Interior
8	U.S. Environmental Protection Agency



# United States Department of the Interior

OFFICE OF THE SECRETARY  
Office of Environmental Policy and Compliance  
408 Atlantic Avenue – Room 142  
Boston, Massachusetts 02110-3334



May 26, 2011

9043.1  
ER 11/298

Mr. Alan Anacheke-Nasemann, Project Manager  
U.S. Army Corps of Engineers  
New England District  
Regulatory Division  
696 Virginia Road  
Concord, MA 01742-2751

**RE: COMMENTS**  
**Draft Environmental Impact Statement**  
**South Coast Rail Project**  
**Boston, New Bedford, Fall River, MA**

Dear Mr. Anacheke-Nasemann:

The U.S. Department of the Interior (Department) has reviewed the Draft Environmental Impact Statement (DEIS) for the proposed South Coast Rail Project. This is a response to Public Notice NAE-2007-00698, dated March 23, 2011, and the DEIS. This response includes comments by the Department's U.S Fish and Wildlife Services (Service) and the National Park Service (NPS). The Applicant, the Massachusetts Department of Transportation, is proposing to establish commuter passenger transit service between Boston and the Cities of New Bedford and Fall River, Massachusetts.

## **Description of Proposed Action**

The project purpose as defined by the Army Corps of Engineers (ACOE) is "to more fully meet the existing and future demand for public transportation between Fall River/New Bedford and Boston, MA, and to enhance regional mobility." Sixty-five alternatives were initially identified by the Interagency Coordinating Group, which included representatives from federal, state and tribal agencies. These 65 alternatives were combined into 38 alternatives by grouping similar alternatives together and dismissing alternatives that were not transportation alternatives. A three-step criterion approach was then applied to the remaining alternatives. Step 1 evaluated whether an alternative met the overall project purpose. Step 2 evaluated those alternatives that met the project purpose as determined in Step 1. Step 3 determined if any of the remaining alternatives should be dismissed based on potential impacts to the aquatic or natural environment. Ultimately, the alternatives analyzed in the DEIS include:

- No-Build (Enhanced Bus) Alternative
- Attleboro Electric Alternative
- Attleboro Diesel Alternative
- Stoughton Electric Alternative
- Stoughton Diesel Alternative
- Whittenton Electric Alternative
- Whittenton Diesel Alternative
- Rapid Bus Alternative

The Attleboro Alternatives would use existing commuter and freight rail tracks and a segment of new right-of-way. Three existing commuter rail stations would be modified and eight new stations constructed. Both electric and diesel options are evaluated. The Attleboro Alternatives would directly impact 20.6 acres of wetlands.

The Stoughton Alternatives would use existing commuter and freight rail tracks and a segment of out-of-service rail right-of-way. Three existing commuter rail stations would be modified and ten new stations would be constructed. Both electric and diesel options are evaluated. The Stoughton Alternatives would directly impact 11.94 acres of wetlands.

The Whittenton Alternatives would use existing commuter and freight rail tracks and two segments of out-of-service rail right-of-way. Three existing commuter rail stations would be modified and ten new stations would be constructed. Both electric and diesel options are being evaluated. The Whittenton Alternatives would directly impact 10.4 acres of wetlands.

The Rapid Bus Alternative would use existing highway rights-of-way and in some locations a new dedicated bus lane. Rapid bus routes would use six new stations. The Rapid Bus Alternative would directly impact 21.5 acres of wetlands.

The proposed project also includes two overnight layover facilities, one in Fall River and one in New Bedford. Three alternative sites are under consideration in Fall River, and two alternatives sites are under consideration in New Bedford.

In addition to direct wetland impacts, all of the alternatives will have temporary and secondary impacts to aquatic resources, including vernal pools and their supporting habitat. Other impacts that have been identified include loss of upland habitat and habitat fragmentation.

### **U.S. Fish and Wildlife Service**

These comments are provided in accordance with the Fish and Wildlife Coordination Act 16 U.S.C. 662, *et seq.*; the Clean Water Act 33 U.S.C. 1344 (m); the Migratory Bird Treaty Act 16 U.S.C. 703-712; and the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531, *et seq.*).

### **General Comments**

The ACOE plans to identify the Least Environmentally Damaging Practicable Alternative (LEDPA) after completion of the public review of the DEIS. Secondary impacts to the

environmental community have not been fully identified and will be more fully addressed upon the selection of the LEDPA. Similarly, specific measures to mitigate for unavoidable direct and secondary impacts to aquatic resources and other wildlife will be developed once a LEDPA has been chosen.

The DEIS refers to areas that have potential vernal pools throughout the document. The Department recommends that these areas be evaluated to determine their presence or absence, as well as their quality in order to permit avoidance, minimization, or mitigation for impacts to existing vernal pools and their supporting habitat.

L-054.01

### Endangered Species Act

Based on information currently available to us, the northern red-bellied cooter (*Pseudemys rubriventris*) is the only federally listed threatened or endangered species known to occur in the project area. According to our files, and from information provided to us by the Massachusetts Natural Heritage and Endangered Species Program, the northern red-bellied cooter only occurs along the existing Middleborough line near the Nemasket and Taunton Rivers. As it is our understanding that no work is planned along this section of the line at this time, we have no further concerns regarding this project and the northern red-bellied cooter. If our understanding of the project is incorrect, or if new information becomes available on the occurrence of listed species in the project area, this determination may be reconsidered.

L-054.02

### Specific Comments

The Massachusetts Audubon Society has designated two Important Bird Areas (IBAs) within the Study Area: the Hockomock Swamp and the Freetown-Fall River State Forest/Southeastern Massachusetts Bioreserve. Table 4.14-1 lists birds that may be found in the project area. The list identifies several area-sensitive and forest-interior avian species such as the hermit thrush (*Catharus auttatus*), wood thrush (*Hylocichia mustelina*), chestnut-sided warbler (*Dendroica pensylvanica*), veery (*Catharus fuscescens*), black and white warbler (*Mniotilta varia*), black-throated blue warbler (*Dendroica caerulescens*), black-throated green warbler (*Dendroica virens*), Canada warbler (*Wilsonia canadensis*), ovenbird (*Seiurus aurocapillus*) and others. There are also wetland-dependant breeding birds listed in the table, such as the state-listed least bittern (*Ixobrychus exilis*) and pied-billed grebe (*Podilymbus podiceps*), northern waterthrush (*Seiurus noveboracensis*), Louisiana waterthrush (*Seiurus motacilla*) and common yellowthroat (*Geothlypis trichas*). A more detailed assessment of area-sensitive and wetland-dependant breeding bird species should be undertaken. We recommend that a site-specific breeding bird survey be conducted (if adequate existing data is not available) once a LEDPA has been identified. This information once incorporated in the mitigation plan is essential when defining species specific impacts, avoidance strategies, and mitigation measures necessary to offset or compensate for impacts to wetland-dependant migratory bird species and their associated habitats.

L-054.03

The Migratory Bird Treaty Act (MBTA) prohibits taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department. Neither the MBTA nor its implementing regulations at 50 CFR Part 21 provide for permitting of “incidental take” of migratory birds. While take of migratory birds does not include habitat destruction or alteration, direct taking of birds, nests, eggs, or parts

L-054.04

thereof is likely to occur if clearing or other ground disturbance occurs within migratory bird nesting habitat during the nesting season when eggs or young are likely to be present. Vegetation removal activities should not occur during this time.

The DEIS provides statements of fact and refers to surveys, but does not provide the scientific references throughout. We suggest that the Final Environmental Impact Statement (FEIS) provide scientific references for factual statements and surveys, and include them in the bibliography section. Examples of statements without references include:

L-054.04

- **Page 4.15-6:** "Populations of pure blue-spotted salamanders occur north of the hybridization zone with Jefferson salamanders . . . There are 102 towns in Massachusetts where blue-spotted salamanders have been observed. Over 172 occurrences have been documented since 1981, as well as 27 historic occurrences that were documented prior to 1981."
- **Page 4.15-6:** "... breeding season [blue-spotted salamanders] lasts from mid-March to late April. Eggs are often laid singly or in a small egg mass, which cling lightly to overhanging vegetation or fall to the bottom of the pond."
- **Page 4.15-7:** "In Massachusetts, riparian areas are the preferred habitat of wood turtles... spend most of the spring and summer in mixed or deciduous forests, fields, hayfields, and riparian wetlands including wet meadows, bogs, and beaver ponds. They return to the streams in late summer or early fall to their favored overwintering location."
- **Page 4.15-13:** "In June 2008, habitat evaluations and surveys along the Stoughton Alternative were conducted for the state-threatened Blanding's turtle. This survey was performed because the NHESP database indicated the presence of Blanding's turtles in the vicinity of the existing railroad bed."
- **Page 4.15-23:** The DEIS states that based on the "2001 rare species studies," suitable habitat was found for several species, including the Hessel's hairstreak and the water-willow stem borer. These studies, however, are 10 years old, and "suitable habitat" may no longer be available. We suggest that the FEIS reference more recent scientific studies or develop plans to conduct surveys to assess the habitat for those species, and provide appropriate mitigation actions if necessary.

L-054.05

## Mitigation

The ACOE plans to identify the Least Environmentally Damaging Practicable Alternative (LEDPA) after completion of the public review of the DEIS. Specific measures to mitigate for unavoidable direct and secondary impacts to aquatic resources and other wildlife will be developed once a LEDPA has been chosen.

Direct wetland impacts of the proposed alternatives range between 10 and 22 acres. The DEIS states that, based upon regulatory requirements, these impacts would be mitigated at a 1:1, 2:1, or 3:1 ratio, depending upon the habitat type impacted. The ACOE's New England District Compensatory Regulation Guidance (Guidance) states that in most cases, it will be necessary to compensate for temporary and secondary impacts to prevent a net loss in aquatic resource functions. Table 2 of the Guidance, *Recommended Compensatory Mitigation for Temporary*

L-054.06

*and/or Secondary Impacts*, includes secondary impacts that the Department would like to see included in a mitigation plan, such as: clearing of upland forest and/or scrub-shrub vegetation within 100' of the stream bank or outermost channel of braided stream; permanent conversion of forested wetlands to other cover types; removal of forested wetland cover for a new corridor; and removal of the forested cover of vernal pool buffer (w/in 250' of pool) when the percentage of disturbance exceeds 25 percent of the total VP buffer area. Mitigation to aquatic resources should include appropriate upland buffers.

L-054.06

## **Conclusion**

The Department recommends that the Applicant provide more site-specific information and that the FEIS more specifically identify impacts to aquatic resources and wildlife. This information and analysis are important to assess the impacts, and will aid in avoiding, minimizing and compensating for them. Please contact Maria Tur, U. S. Fish and Wildlife Service, New England Field Office, 70 Commercial Street, Suite 300, Concord, NH 03301; phone: (603) 223-2541 for additional information.

L-054.07

## **National Park Service**

L-054.08

### **New Bedford Whaling National Historical Park**

New Bedford Whaling National Historical Park (Park) is located in New Bedford, Massachusetts. The South Coast Rail project seeks to connect this city via train with Boston. As the proposed project holds several potential major benefits for the national park (as follows), the Park strongly supports its implementation.

***It would be a huge economic boon to the area.*** Businesses and residents would relocate to New Bedford and as a result the city's tax base would grow significantly. The City is a legislated partner in a park that is by design a partnership park, and success is mutually interdependent. With that increased tax base would come more funding for tourism initiatives, historic preservation projects, and educational programs in which the Park and the City could collaborate, thus better ensuring adequate stewardship of our cultural resources as well as the development and maintenance of infrastructure and services that provide for a high quality visitor experience.

***It would increase park visitation.*** According to the Park's 2010 comprehensive visitor survey, a surprisingly low percentage of the Park's visitation is from the Boston area, given that this is one of the major metropolitan centers in the United States and is within 60 miles of the park. Although a car trip without traffic is theoretically only one hour, with traffic -- which is common -- the time can escalate up to two to two-and-a-half hours. In providing a convenient option around these delays, the proposed rail would open up a new audience that could connect with the park's history and significance.

L-054.09

***It would make park-related travel cleaner, safer, easier and more efficient.*** Although the Park does have employees that commute from the Boston area, for others the commute is a deterrent to applying for jobs. The proposed rail would alleviate that, opening up a new pool of recruits for the Park. It would also make the periodic business travel by Park staff to the NPS Regional Office and other parks in Boston quicker, less costly, and more environmentally friendly.

L-054.10



Beyond these general benefits that would be incurred from the project as a whole, the Park strongly endorses the electric rail option over diesel. New Bedford has been positioning itself as a leader in the development of alternative energy, from the manufacturing of photovoltaic cells to the assembly of offshore wind apparatus, and this would be very much in keeping with that direction. The National Park Service also strives to be a leader in environmental practices, and should be forward thinking in terms of the environmental impact our children will have to bear and choose the greener option. For more information about the Park, please contact Jennifer Nersesian, Superintendent, New Bedford Whaling National Historical Park, 33 William Street, New Bedford, MA 02740

L-054.11

### **Taunton Wild and Scenic River**

The DEIS correctly identifies the need to coordinate with the NPS regarding the status of the Taunton River as a National Wild and Scenic River. Each of the rail alternatives involves the Fall River Secondary line which parallels the Taunton River terminating in potential new rail stations in Fall River.

L-054.12

Some of the particular areas of highest concern and potential impact to resources of interest to the Wild and Scenic River include: water quality impacts from construction and stormwater runoff; rail line crossings of the Taunton and tributaries; the selection and siting of a layover facility; design and construction of the major transportation hub envisioned for North Fall River (Fall River Depot).

The proposed route crosses through or close to many significant natural and cultural landscape features identified during the Wild and Scenic River Study, including the Hockomock Swamp, Peace Haven site, and many others. Significant coordination will need to occur to ensure that impacts to these resources are fully understood, minimized or eliminated or mitigated.

The selection and design of a Fall River layover site is of particular concern, as all three currently identified sites are riverfront, although the Weaver's Cove East is at least separated from the riverfront by the existing tracks. In reviewing the DEIS, information about potential layover sites beyond the three identified sites or whether there might be other possible layover sites with less potential impact to the Taunton riverfront area could not be found.

L-054.13

The major Fall River Depot station could be a beneficial feature drawing people to the downtown waterfront area, and, as preliminarily discussed in the DEIS, should include waterfront pedestrian and bike access amenities, and should link and enhance a vibrant urban waterfront for the City of Fall River. Please contact Jamie Fosburgh, New England Team Leader Northeast Region Rivers Program, 15 State Street, Boston, MA 02109 for more information.

L-054.14

### **Acushnet Cedar Swamp National Natural Landmark**

Construction activities associated with track upgrades for a commuter rail to New Bedford will have noise impacts on the National Natural Landmark (NNL) Acushnet Cedar Swamp. The existing freight rail tracks are immediately adjacent to the eastern edge of the NNL. Scheduling any construction near the NNL during the fall or early winter would minimize noise impacts during critical wildlife breeding season during the spring and early summer.

L-054.15



There will likely be additional noise impacts from increased train traffic by the NNL if commuter rail service is initiated to New Bedford. We would be interested in whether there are ways to reduce train noise levels, particularly during critical breeding seasons in the spring and early summer.

L-054.15

It is concluded on page 4.14-73 of the DEIS that reconstructing the section of track adjacent to the Acushnet Cedar Swamp for commuter rail service will not create any additional barrier to wildlife movement. However, construction activities have potential to temporarily impede wildlife movement. Scheduling any construction near the NNL outside known peak wildlife movement periods would minimize any barrier effects. Of greater concern, is the potential permanent impact on wildlife movement due to the increased train traffic. This should be assessed.

L-054.16

It is stated in the DEIS that the proposed Church St. Site Layover Facility, which is separated by Route 140 from the Acushnet Cedar Swamp, will have no impact on the swamp. It is unclear from the DEIS whether there is any hydrologic connection between Acushnet Cedar Swamp (NB-22) and the small section of wetland (NB-23.1) located between the proposed layover facility site and Route 140. Given the potential for increased run-off, potentially containing pollutants, an assessment of this is recommended. For additional information regarding the Acushnet Cedar Swamp, please contact Deb DiQuinzio, National Natural Landmarks Program, 15 State Street, Boston, MA 02109.

L-054.17

Thank you for the opportunity to review and comment on this DEIS. Please contact me at (617) 223-8565 if I can be of assistance.

Sincerely,



Andrew L. Raddant  
Regional Environmental Officer

cc: Aisling O'Shea, MEPA (aisling.o'shea@state.ma.us)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1  
5 POST OFFICE SQUARE, SUITE 100  
BOSTON, MA 02109-3912

May 27, 2011

OFFICE OF THE  
REGIONAL ADMINISTRATOR

Colonel Philip T. Feir  
Commander, New England District  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Re: EPA Comments on the South Coast Rail Project Draft Environmental Impact Statement/  
Draft Environmental Impact Report (CEQ file number 20110095) and Response to Corps Public  
Notice File Number NAE-2007-00698

Dear Colonel Feir:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA), Section 404 of the Clean Water Act (CWA), and Section 309 of the Clean Air Act (CAA), we have reviewed the U.S. Army Corps of Engineers' (Corps) Draft Environmental Impact Statement (DEIS) for the South Coast Rail Project in southeastern Massachusetts.<sup>1</sup> This letter serves as our comment on the DEIS and the Corps' Public Notice of a CWA Section 404 permit for the project. The DEIS was prepared following an extensive public and interagency coordination process led by the Massachusetts Department of Transportation (MassDOT) and the Corps that began in 2008. EPA was an active participant in that process as a cooperating agency.

The DEIS details plans by MassDOT to improve public transit service between the cities of New Bedford and Fall River and Boston. As described in the DEIS, the basic project purpose is "to more fully meet the existing and future demand for public transportation between Fall River/New Bedford and Boston, Massachusetts." (DEIS page 1-1). The DEIS considers the No Build alternative, three rail service alignment alternatives (the Attleboro, Stoughton and Whittenton routes) with options for diesel and electric service, and a Rapid Bus alternative to achieve the project purpose. As required by the Massachusetts Environmental Policy Act (MEPA), MassDOT (in the preface to the DEIS) identifies the Stoughton route as its preferred alignment for the project. The Corps has not yet identified the Least Environmentally Damaging Practicable Alternative (LEDPA) for the project and it intends to use public comments on the DEIS to help make that determination prior to issuance of the Final Environmental Impact Statement (FEIS).

EPA supports the Commonwealth's desire to expand transportation mode choice in the South Coast region in an environmentally responsible manner. The DEIS explains that increasing

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<sup>1</sup> We note that the joint DEIS has also been prepared to allow MassDOT to meet the requirements of the Massachusetts Environmental Policy Act.



transit access to the South Coast will result in improvements to regional air quality (through reductions in Vehicle Miles Traveled) and reductions in greenhouse gas emissions, support opportunities for transit oriented development, and stimulate overall economic development in the region<sup>2</sup>. We believe a major transit project for the region that meets the basic project purpose also has the potential to bring these benefits, particularly air pollution reductions and support for sustainable development in the South Coast region.

Regardless of the transit alternative ultimately selected, continuing firm commitments and funding by the Commonwealth will be necessary to support a smart growth future for the region. We commend MassDOT for its significant investments to date in working with communities and regional planning agencies to develop the 2009 *South Coast Rail Economic Development and Land Use Corridor Plan*. The corridor plan is based on smart growth principles and describes the steps necessary to promote more sustainable development in the South Coast region in conjunction with increased transit service. MassDOT is supporting the plan by providing smart growth technical assistance to communities in the region. EPA encourages MassDOT to continue their collaborative efforts in order to maximize the smart growth benefits that accrue to any future public transportation investments.

The Corps' analysis of the project under NEPA and the CWA is a critical step in the decision making process for this project, against the backdrop of the longstanding public controversy regarding alternatives and alignments, sources for project funding and operation, and related concerns about the potential for significant direct and indirect impacts to communities and the natural environment. Our attached comments highlight a number of concerns and comments about the project and the DEIS that will need to be addressed during the remainder of the NEPA/404 process. With a few notable exceptions (more fully described below and in the attachments to this letter) we believe the DEIS effectively discusses potential impacts associated with the project alternatives. The DEIS also thoroughly analyzes potential induced development effects and potential impacts to environmental justice communities.

The DEIS provides sufficient information to support the conclusion that the Attleboro alternatives are not practicable and can be eliminated. We also believe the information in the DEIS adequately supports the Corps' decision to continue consideration of the other rail alternatives and the Rapid Bus alternative at this time. We recognize that the Commonwealth does not believe that the Rapid Bus alternative achieves their goals. In this regard, we will review any additional information provided by the Commonwealth and comments received on the DEIS to inform our recommendation to the Corps on the LEDPA.

Our concerns about the DEIS are related to the characterization of direct and indirect (secondary) impacts to wetlands and other waters of the U.S., and the scoring system used to compare impacts and rank the various alternatives under consideration. These result in understating

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<sup>2</sup> Reestablishment of transit service to South Coast region has been extensively studied on and off over the past twenty years, with the most recent effort following the release of the Commonwealth of Massachusetts' Executive Office of Transportation and Public Works report entitled, "South Coast Rail: A Plan for Action" dated April 4, 2007. That report, and others that precede it, highlight the Commonwealth's desire to increase transit access to the South Coast region of the state.



impacts to aquatic resources in the Stoughton and Whittenton alignments and overstating impacts to aquatic resources from the Rapid Bus alternative. Based on these and other concerns detailed in the attachment to this letter, we believe the DEIS does not provide enough information for EPA to assess compliance with the Section 404(b)(1) Guidelines. We will make our recommendations to the Corps for the LEDPA determination, among other issues, once we have the opportunity to review and discuss with the Corps additional information concerning impacts to aquatic resources.

As explained above and described in detail in Attachment B to this letter, the Region may have serious concerns regarding alternatives and direct and indirect (secondary) adverse impacts to aquatic resources. In the event that we do not agree with the Corps District's ultimate conclusions regarding those issues, including practicability of alternatives, severity of impacts, and whether a compensatory mitigation plan could adequately address those impacts, we are preserving our ability to raise these unresolved issues to senior officials at both EPA and the Department of Army.<sup>3</sup>

In addition, and in accordance with EPA's national rating system, a description of which is attached to this letter, we have rated the DEIS EC-2-"Environmental Concerns-Insufficient Information." As noted above and in Attachment B, additional information is needed on the full extent of the impacts of the alternatives on aquatic resources, which is necessary to, among other reasons, inform our recommendation regarding the LEDPA. Attachments A and B to this letter offer some recommendations regarding additional information that should be provided going forward in the NEPA and Section 404 process.

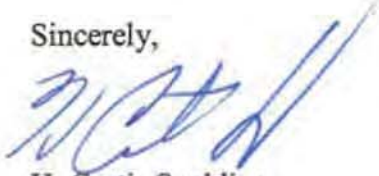
We appreciate the opportunity to participate in numerous workgroup meetings to discuss the project over the past few years and to provide our comments on the DEIS and Public Notice. We encourage MassDOT and the Corps to continue to reach out to local, state and federal agencies and the public for input as the NEPA/404 process advances. EPA recognizes the importance of this project to the Commonwealth, and we reiterate our commitment to work with the Corps and MassDOT to continue to review new information as it is developed, and to address outstanding issues as the NEPA/404 processes advance for the project.

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<sup>3</sup> We believe the proposed project may have a substantial and unacceptable impact on aquatic resources of national importance. This letter follows the field level procedures outlined in the August 1992 Memorandum of Agreement (MOA) between EPA and the Army Corps of Engineers, Part IV, paragraph 3(a), regarding 404(q) of the Clean Water Act, 33 U.S.C. 1344(q). After we have evaluated the project further, and as required by Part IV, paragraph 3(b) of the MOA, I will notify you within 25 calendar days of the date of this letter (i.e., no later than June 21, 2011) whether and why we believe the project will have substantial and unacceptable adverse impacts to aquatic resources of national importance.

Please feel free to contact me or Timothy Timmermann of EPA's Office of Environmental Review at 617-918-1025 or Matt Schweisberg of EPA's Office of Ecosystem Protection at 617-918-1628 if you wish to discuss these comments further.

Sincerely,



H. Curtis Spalding  
Regional Administrator

Enclosures

cc:

U.S. Army Corps of Engineers New England District  
Alan Anacheke-Nasemann, Senior Project Manager  
Regulatory Division, Permits and Enforcement Branch  
696 Virginia Road  
Concord, MA 01742-2751

Secretary Richard K. Sullivan, Jr., EOEEA  
attn.: MEPA Office (Aisling O'Shea)  
100 Cambridge Street, Suite 900  
Boston MA 02114

Kristina Egan  
Director, South Coast Rail  
Massachusetts Department of Transportation  
10 Park Plaza, Suite 4150  
Boston, MA 02116-3973

Tom Chapman, Supervisor  
U.S. Fish and Wildlife Service  
New England Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301



## **Summary of Rating Definitions and Follow-up Action**

### **Environmental Impact of the Action**

#### **LO--Lack of Objections**

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

#### **EC--Environmental Concerns**

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

#### **EO--Environmental Objections**

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

#### **EU--Environmentally Unsatisfactory**

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

### **Adequacy of the Impact Statement**

#### **Category 1--Adequate**

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

#### **Category 2--Insufficient Information**

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

#### **Category 3--Inadequate**

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.



## **Attachment A: Detailed EPA Comments on the South Coast Rail Project Draft Environmental Impact Statement**

### **Environmental Effects from Induced Growth**

#### General

The DEIS provides an excellent analysis of the potential for environmental effects from growth that may be induced by the build alternatives. The approach is one of the best that we have seen in our review of Environmental Impact Statements, and may serve as a model for future transportation projects. The DEIS makes a compelling case that smart growth development of the South Coast region is better for the environment than “business as usual,” regardless of the transit improvements ultimately implemented. One concern we have, however, is whether MassDOT can ensure that future development will follow a smart growth pattern since it will take concerted commitments by state and local governments as well as the private sector to make this happen. We commend MassDOT for the significant investments it has made to date in developing the 2009 *South Coast Rail Economic Development and Land Use Corridor Plan* and providing technical assistance to communities in the South Coast region. We recognize that Chapter 7 of the Corridor Plan addresses implementation, as does the DEIS (page 5-27), but both in a relatively general manner. The magnitude of environmental impacts from induced growth will depend on the extent to which smart growth is achieved, so it is important to understand the actions that the Commonwealth commits to undertake.

L-068.01

We recommend that the FEIS describe firm, detailed commitments that the Commonwealth is prepared to make to support a smart growth future for the region. For example, one of the assumptions made in creating the smart growth scenario is that “infrastructure constraints will be overcome within reason” and that the Commonwealth will help “support investments in infrastructure to realize more compact development.” (DEIS page 5-12) Adequate water and sewer infrastructure will be important to successfully implement compact development in some communities. However, since the Massachusetts Department of Environmental Protection (DEP) no longer allocates points for wastewater projects based on a community’s Commonwealth Capital (smart growth) score, it does not appear as if wastewater infrastructure funding is currently being targeted at projects in communities committed to smart growth. As a means to address this particular barrier to smart growth, the FEIS could describe whether the Commonwealth (DEP) would change its priority ranking process for the State Revolving Fund in order to support smart growth in the South Coast region (or elsewhere). This is just one example of the kinds of investments and commitments the Commonwealth could make to support compact, smart growth development in the area to be affected by the project. Also, the FEIS should address the extent to which the Commonwealth will commit resources to protecting the Priority Preservation Areas, in addition to establishing a regional transfer of development rights program. Without these kinds of investments in both development and conservation, future growth is more likely to follow Scenario 1 (business as usual), and the region will not reap the environmental benefits of smart growth that are described for Scenario 2 in this DEIS.



Additional detailed comments on the Chapter 5.0 of the DEIS:

Page 5-13. As we noted when we reviewed the Secondary and Cumulative Impacts Technical Report, we do not understand why Scenario 2 includes some No-Build growth, but Scenario 1 does not, at least as described in the DEIS. Confusingly, in the Indirect Effects section on page 5-23 both Scenario 1 and Scenario 2 are described as including baseline plus induced growth. It is not clear which statement is accurate. If, in fact, one scenario includes baseline growth but the other does not, this makes it difficult to compare the two scenarios. This difficulty is illustrated in a comparison of Table 5-2 with Figures 5-9 through 5-11, which do appear to include No-Build growth in both scenarios. For example, under Scenario 2 for the Stoughton alternative, Table 5-2 shows that New Bedford will lose 567 fewer households than No-Build. Since the No-Build projection for New Bedford is that it will lose 1,283 households, this implies that under Scenario 2 New Bedford will lose a total of 716 households (1,283 minus 567). Yet Figure 5-10 (Scenario 2: Stoughton Alternative, Total Growth) indicates that New Bedford will lose 607 households, not 716. We recommend that both scenarios treat No-Build growth in the same manner throughout the document, and discrepancies such as these be reconciled and corrected. If the differences between scenarios (in terms of whether they include No-Build growth) affect the environmental impacts analyses, these will need to be corrected also so that fair comparisons can be made.

L-068.02

Page 5-15. Table 5-2 provides estimates of the expected growth in households for each of the alternatives, including growth in four Rhode Island communities (Tiverton, Portsmouth, Bristol, and Warren) that may be affected by the project. We note, however, that the Rhode Island household growth is not depicted in Figures 5-3 through 5-11 and we recommend that this growth be shown, along with growth in the Massachusetts communities. For Figures 5-6 through 5-11, information on No-Build growth should be available from Rhode Island's Office of Statewide Planning.

L-068.03

Page 5-17. Assumptions for Future Growth Scenario. We had recommended during agency meetings that the analysis of potential environmental impacts that could be attributed to induced growth include stormwater runoff. Runoff from development is a significant contributor to poor water quality in southeastern Massachusetts and elsewhere, and we continue to believe that an estimate of potential impacts from induced development should be made. One approach would be to estimate the amount of impervious surface that will be created by induced development, and use hydrologic data to calculate the annual runoff from these impervious surfaces. We recognize that some of this runoff will be directed to stormwater treatment systems or otherwise absorbed before it reaches waterways, but having an estimate of the maximum potential for stormwater contamination would be useful in the comparison among alternatives.

L-068.04

Page 5-18, first bullet. Here and elsewhere in Chapter 5 we recommend that it be made clear when only direct impacts to wetlands are being discussed, and not the full suite of direct, indirect/secondary, and cumulative impacts. For example, at a minimum we recommend that this first sentence read: "Residential housing development typically results in minor **direct** impacts to wetlands because of local, state, and federal legal protections."

L-068.05



Page 5-20, Table 5-4. Is there a typographical error in the “Loss of Forest Land” category? As shown, the “high” smart growth scenario results in a greater loss of farmland than the “low” scenario, which doesn’t match what is described in the text.	L-068.06
Page 5-23, second paragraph. We recommend either deleting the last sentence (“Thus, certain regulated resources experience improvements, rather than degradations, over time.”) or providing a more complete description. Depending on the kind of wetlands mitigation provided, it can be a long time before mitigation replaces lost values and sometimes mitigation is not successful. In other words, successful wetland mitigation (especially wetland creation) is more complex than this last sentence implies.	L-068.07
Page 5-24. Table 5-5. We note that although the build scenarios (Scenario 1 and 2) reduce the loss of population (households) from Fall River and New Bedford as compared with No-Build, they do not stem the loss completely. Even the smart growth scenario (Scenario 2) still results in the loss of several hundred households from each city.	L-068.08
Page 5-35, Table 5-11. Although the text indicates that the analysis does not include indirect impacts to wetlands, this should be made even clearer in the table. For example, the title of Table 5-11 could read “ <b>Direct</b> Wetland Impacts (Acres of Loss)” instead of simply “Wetland Impacts (Acres of Loss)”.	L-068.09
Pages 5-42 to 5-43. There is an error in Table 5-15. We believe that the VMT projections for Scenario 2 are incorrect, and should be replaced with projections developed by VHB on 12/11/09. Specifically, under Scenario 2 in Table 5-15, the VMT increase for Attleboro should be 2,829,380, for Stoughton the increase should be 2,826,264, and for Rapid Bus it should be 3,147,190. These revised estimates were developed by VHB on 12/11/09 in response to EPA’s comments on the Secondary and Cumulative Impacts Technical Report. We commented that the VMT reduction factor (from 43 VMT/household/day to 26 VMT/household/day) for Scenario 2 should <u>only</u> be applied to those households living in smart growth areas (PDAs), and not to those living outside PDAs. VHB subsequently revised the estimates, and it is these revised numbers that should be presented in Table 5-15.	L-068.10
Page 5-44. Section 5.3.2.9. Economic Effects, Scenario 1. There appears to be a typographical error in the second sentence. The sentence states that wetland losses are evaluated below, but this section is on economic effects.	L-068.11
Page 5-67. Table 5-23. There appear to be typographical errors in the table, since the text indicates that the changes associated with Scenario 2 (in terms of incremental and percent change land conversion) are negative (meaning less land will be developed), not positive, but the table shows the opposite.	L-068.12



## Environmental Justice

L-068.13

The Environmental Justice (EJ) analysis conducted by the Corps for the South Coast Rail DEIS was guided by the requirements of Massachusetts Executive Office of Energy and Environmental Affairs (EEA) Environmental Justice Policy, Executive Order 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, and U.S. Department of Transportation (DOT) Order 5610.2 Environmental Justice in Minority and Low-Income Populations. These policies direct agencies to identify and address disproportionately high and adverse human health or environmental effects of their activities on minority and low-income communities.

The Council on Environmental Quality's (CEQ) Environmental Justice Guidance Under the National Environmental Policy Act (December 1997) provides 6 guiding principles including 1) considering the composition of the affected area to determine whether minority populations, low-income populations, or Indian tribes are present in the area affected by the proposed action, 2) considering relevant public health data and industry data concerning the potential for multiple or cumulative exposure to human health or environmental hazards in the affected population, to the extent such information is reasonably available, 3) recognizing the interrelated cultural, social, occupational, historical, or economic factors that may amplify the natural and physical environmental effects of the proposed agency action, 4) developing effective public participation strategies, 5) assuring meaningful community representation in the process, and 6) seeking tribal representation in the process in a manner that is consistent with the government-to-government relationship between the United States and tribal governments.

L-068.14

In addition, in the ENF, the Secretary of EOEEA identified several environmental justice requirements for the DEIR including:

- defining and mapping EJ populations in project area,
- describing tangible benefits to EJ communities,
- identifying potential disproportionate impacts on EJ communities and any proposed mitigation, and;
- presenting strategies to enhance public participation in the environmental review process.

EPA believes that the DEIS meets the requirements of these guidance documents, and that the analysis appropriately evaluates the potential for disproportionate adverse impacts to environmental justice populations (as defined by the Commonwealth of Massachusetts EJ policy) – specifically evaluating adverse impacts due to land acquisition (neighborhood disruption/fragmentation, residential displacements, and business/job displacements), increases in noise levels and air pollution and compares these impacts to non-environmental justice neighborhoods. Impacts to EJ populations are expected to be minimal in all of these areas except for noise.

The analysis shows that at a regional level, moderate and severe noise impacts would not be predominately borne by residents of EJ neighborhoods in any of the alternatives. However, at the community level, it shows that in all the rail alternatives, the noise impacts in Fall River would be predominately borne by EJ communities. In addition, the affected community level

L-068.15



analysis shows EJ communities in some of the study area municipalities would be disproportionately affected by noise impacts relative to non-EJ communities in these municipalities (i.e., Canton, Taunton, and Stoughton). However, the DEIS notes that severe impacts will be mitigated and a noise mitigation plan will be developed. Two types of noise mitigation measures will be considered for rail noise abatement: noise barriers and building noise insulation. EPA recommends that the impacted communities be involved with the development of the noise mitigation plan and have an opportunity to participate in decisions regarding the mitigation plans for their neighborhoods. It is not clear whether the mitigation plans will be enforceable. The FEIS should describe how these plans will be enforced and how they plan to address any unforeseen impacts to these communities.

L-068.15

Environmental justice is not only about identifying and addressing adverse impacts of a project on communities but also ensuring that affected communities have access to the benefits of a project. Possible benefits of this project described in the DEIS include increased property values and improved access to jobs, colleges, hospitals, and Boston, as well as the potential for transit-oriented development in the vicinity of the new stations. While all of the alternatives will benefit EJ populations, the amount of benefit will vary depending on the alternative and community. For example, the analysis states that the Attleboro and Stoughton Alternatives would provide the greatest overall benefits to EJ populations; and the rapid bus alternative would provide fewer benefits when compared to rail but would also result in the least overall adverse impacts to EJ populations (primarily from noise).

L-068.16

The DEIS also notes that some of the benefits may come with unintentional consequences. For example, increased property values may have an adverse impact to EJ populations if it results in gentrification. The FEIS should discuss approaches for minimizing gentrification and loss of community cohesion and adoption of these approaches (e.g. affordable housing options) should be an integral part of planning discussions for the project.

L-068.17

In terms of selecting the preferred alternative, EPA recommends that the Corps/MassDOT follow the CEQ's Environmental Justice Guidance Under the National Environmental Policy Act (December 1997 ) which states "that when the agency has identified a disproportionately high and adverse human health or environmental effect on low-income populations, minority populations, or Indian tribes from either the proposed action or alternatives, the distribution as well as the magnitude of the disproportionate impacts in these communities should be a factor in determining the environmentally preferable alternative. In weighing this factor, the agency should consider the views it has received from the affected communities, and the magnitude of environmental impacts associated with alternatives that have a less disproportionate and adverse effect on low-income populations, minority populations, or Indian tribes." In this case, all of the alternatives under consideration provide benefits to EJ populations and the question that should be addressed by the Corps/MassDOT is whether identified adverse impacts can be adequately addressed.

L-068.18

The DEIS outlines an extensive stakeholder involvement process to date including project flyer distribution to EJ neighborhoods, translation of materials, availability of interpreters at public meetings, use of ethnic newspapers, and community workshops in impacted EJ communities. EPA recommends that this public outreach strategy be continued as the project moves forward.

L-068.19



Public participation will become even more critical as the project moves from planning to implementation/construction. Outreach should especially be targeted to those communities who will be disproportionately impacted by noise.

L-068.19

EPA also supports the continued consultation with Native American tribes to determine if any of the alternatives would have an adverse effect on undocumented cultural resources.

L-068.20

### **Water Supply Impacts**

Based on information presented in the DEIS (see DEIS Table 4.17-30), the Stoughton Electric/Diesel alternative set appears to have the least potential to impact drinking water quality, especially with regard to stormwater discharges to water bodies, Interim Wellhead Protection Areas, and Zone IIs.

L-068.21

Section 4.17 of the DEIS (Water Resources) adequately assesses most potential environmental impacts to affected reservoirs and wellfields, pollutant fate and transport, mitigation practices for spill containment and prevention from the rail alternatives, and provides an exhaustive overview of existing regulations and permit authorities for water resources in the affected towns. We note, however, that the discussion of potential impacts from the Rapid Bus Alternative is incomplete. Apart from cursorily mentioning salt as a stormwater pollutant from roads, impacts from the use of winter deicing chemicals for the Rapid Bus Alternative on existing highways, bus terminals, impervious surfaces and proposed lane additions in Raynham, Bridgewater and Brockton are given scant attention in the DEIS. We recommend that more discussion and data, including existing sodium/chloride concentrations in stormwater, surface water and ground water in affected Zone IIs, be provided for the Rapid Bus Alternative. Table 4.17-27 of the DEIS summarizes the wells, water systems, and Zone II stormwater discharges for the Rapid Bus Alternative. It would be helpful if the FEIS included the following information to better understand the potential magnitude of impacts:

L-068.22

- the existing sodium/chloride concentrations in water supplies, reservoir tributaries, and stormwater discharges;
- what Best Management Practices (BMPs) are proposed for salt application optimization and reduction,
- how salt is stored near Zone II areas;
- whether there are highly sensitive zones that require more attention; and
- if sodium chloride concentrations are increasing over time, and, if so, what remedies are proposed for reductions.
- the current concentrations of stormwater constituents (including sodium and chloride) in public water supplies with Zone Is and IIs penetrated by the Rapid Bus road alternative. These data are available from Massachusetts Department of Environmental Protection (MassDEP) and affected drinking water systems as a result of routine Safe Drinking Water Act monitoring for inorganics, metals and organics. If such concentrations are approaching or exceed federal/state Maximum Contaminant Levels (MCLs), the FEIS should explain the remedies and BMPs proposed to reduce concentrations. EPA believes that understanding existing water quality conditions prior to project construction is necessary to better assess any future environmental impacts.



## Stormwater Permitting Requirements

The DEIS correctly identifies the requirement for a National Pollutant Discharge Elimination System (NPDES) permit for stormwater associated with construction activities associated with any of the Build Alternatives. EPA has issued the *NPDES General Permit for Storm Water Discharges From Construction Activities* (“Construction General Permit” or “CGP”), which authorizes stormwater discharges that meet the permit’s eligibility criteria. Where stormwater discharges are proposed into Outstanding Resource Waters (“ORW”), operators must file a WM 08B Notice of Intent with MassDEP prior to seeking CGP authorization from EPA.

L-068.23

For all Rail Alternatives, the DEIS indicates that maintenance and cleaning functions will be performed at proposed layover facilities. Pursuant to 40 CFR 122.26(b)(14), facilities engaging in such activities are considered to be engaging in an industrial activity and require an NPDES permit for stormwater discharges from such facilities. EPA has issued the *Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity* (“MSGP”), which authorizes stormwater discharges that meet the permit’s eligibility criteria. As with the CGP, operators must file a WM 08B Notice of Intent with MADEP prior to seeking MSGP authorization from EPA where discharges are proposed to an ORW.

Both the CGP and MSGP include specific provisions related to the eligibility and control of discharges to impaired water bodies, with or without established Total Maximum Daily Loads (“TMDLs”). Though the DEIS refers to MADEP’s 2006 *Massachusetts Integrated List of Waters* to obtain the impairment status of relevant water bodies, the proponent is reminded that it must reference the most current list (at this time, 2010) of waters available at the time of permitting. If EPA or MADEP determines that certain proposed discharges are not eligible for coverage under the CGP or MSGP, the proponent must obtain an individual NPDES permit for such discharges.

L-068.24

## Air Quality

EPA believes the air quality analysis in the DEIS is reasonable and thorough. The inputs and methodology in the analysis are consistent with other air quality analyses prepared for transportation projects in Eastern Massachusetts. The appropriate MOBILE6 emission factor model and CAL3QHC microscale program were used to prepare the regional and microscale air quality analyses. In general, we concur with the air quality summary and conclusions presented in the DEIS. When compared to the No Build scenario, the analysis concludes that none of the build alternatives will result in an increase of volatile organic compounds (VOCs) or nitrogen oxides (NOx) [precursors to ozone], in fact, a reduction of VOC and NOx for the build alternatives are projected in future years. In addition, the microscale analysis demonstrates that the build alternatives will not result in violation of the one-hour or eight-hour national ambient air quality standard for carbon monoxide.

L-068.25

Chapter 2 of the DEIS (page 2-6), incorrectly identifies the eight-hour ozone classification for Eastern Massachusetts as “severe”. The Boston-Lawrence-Worcester (E. Mass), MA eight-hour ozone nonattainment area consisting of ten counties in eastern Massachusetts (Barnstable

L-068.26



County, Bristol County, Dukes County, Essex County, Middlesex County, Nantucket County, Norfolk County, Plymouth County, Suffolk County, and Worcester County) is classified as moderate. See 40 CFR 81.322. This classification should be corrected in the FEIS. L-068.26

We encourage MassDOT to commit to the construction air quality impact mitigation measures, and emission reduction measures at rail layover facilities which are identified in Section 7.4.6 (pages 7-15 and 7-16) of the DEIS. These commitments should be included in the Corps FEIS and Record of Decision for the project. L-068.27

We note that the Attleboro diesel locomotive alternative will require all new rolling stock, (purchase of new train sets consisting of locomotive engine, coaches and cab), while both the Stoughton and Whittenton diesel locomotive alternatives would extend existing services and may be able to utilize a number of existing train sets. As the construction period for diesel train alternatives range from four to seven years, new locomotive engine purchases would likely be built to Tier 4 emissions standards that apply to newly-built locomotives starting in year 2015. EPA also encourages, wherever possible, implementation of an accelerated timeline for locomotive rebuilding, thereby providing emission controls earlier than currently required. When rebuilding locomotive engines, EPA encourages re-manufacture to the cleanest emission control practicable at the time. L-068.28

## **DEIS Scoring System**

### Background

The DEIS describes a scoring process (DEIS page 3-121) that was developed to demonstrate the relative performance of the alternatives with respect to specific criteria. The scoring system was applied to determine how well the alternatives met the project purpose, whether they are practicable, and whether they result in positive (beneficial) air quality impacts. The scoring system was also used to compare a range of environmental impacts across alternatives, and ultimately to provide an assessment of the overall performance of each alternative. L-068.29

### General Comments

The Council on Environmental Quality regulations implementing NEPA require the alternatives analysis in all EISs to include the alternative of “no action” (40 CFR 1502.14(d)) to provide a benchmark to enable a comparison of the effects of alternatives (Question 3, CEQ’s Forty Most Asked Questions about CEQ’s NEPA Regulations). In practice, agencies typically have used the no action (also known as the no build) alternative not only to compare alternatives with respect to impacts but also to show how they perform when compared to what would occur if no action were taken. In this case, while the DEIS does include discussion of a no-action alternative (as defined on DEIS page 3-31), the scoring system relied on in the DEIS to draw comparisons and conclusions about which alternatives meet the project purpose, it omits any comparison of the alternatives to the no build condition<sup>4</sup>. Instead, the DEIS scores alternatives based solely on how well they perform as compared to the best performing alternative, and assigns a letter grade (A- L-068.30

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<sup>4</sup> EPA recommended this comparison in our January 9, 2009 scoping comments on the project and during an Interagency Coordination Group meeting on October 22, 2009.



F) to the relative comparison score. We believe this approach in the scoring system introduces a bias to the process because it masks the fact that an alternative that performs less well than the optimum one still can achieve the purpose of the project. Using a scoring system that compares alternatives' performance to the future no-build baseline would be a more objective presentation of the comparison and would be consistent with the intent of the CEQ regulations. In addition, we believe the assignment of grades with the ultimate use being a comparison of "Counts of Grade "F" is misleading. The use of the system results, for instance, in the grade "F" for the Rapid Bus alternative under both the "VMT" and "Regional Mobility" criteria, even though the Rapid Bus alternative reduces VMTs and results in an increase in regional mobility. The assignment of a failing grade fails to recognize that all of the build alternatives reduce VMTs and increase regional mobility, albeit with the rail alternatives performing better than Rapid Bus. The subsequent tally of "failing" grades to rank alternatives further compounds this problem.

L-068.30

We believe that the Corps should incorporate the no-build alternative into their comparisons of alternatives, consistent with the intent of the CEQ regulations. We also believe the Corps should eliminate the score and grade components of the criteria tables, and instead simply present, for each criterion, the performance information for each of the alternatives. This performance information is already contained in the criteria tables, so our suggestion would be simple to implement and would result in a much clearer and more relevant depiction of information related to the practicability determinations.

## **ATTACHMENT B**

### **SECTION 404(b)(1) GUIDELINES EVALUATION FOR THE SOUTH COAST RAIL TRANSPORTATION PROJECT**

#### **I. INTRODUCTION**

The U.S. Environmental Protection Agency New England Region (“the Region”) prepared this document to describe and evaluate the effects of the proposed construction of the South Coast Rail transportation project located in southeast Massachusetts on streams, wetlands, and wetland dependent wildlife. This document utilizes the information presented in the current Clean Water Act § 404 Public Notice (“the PN”); the South Coast Rail Project Draft Environmental Impact Statement (“the DEIS”), which also serves as the substantive application for a CWA section 404 permit; several site visits by EPA Regional staff; and other information collected during the history of the proposed project. The text summarizes the Region’s current position on alternatives in the context of § 230.10(a) of EPA’s Clean Water Act § 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material (40 CFR Part 230) (“the Guidelines”) and analyzes the environmental impacts of the proposed project in the context of §§ 230.10(b) and (c) of the Guidelines. After carefully examining the DEIS, PN, and other information, we do not believe there is sufficient information to determine compliance with the Guidelines. Our rationale follows. L-068.31

#### **II. ECOLOGICAL RESOURCES**

##### **A. Landscape Setting**

Descriptions exist of the geologic, topographic, soils, and other landscape features within the project study area. DEIS at sections 4.1, 4.2, and 4.10 - 4.18. As with nearly all of southern New England, southeast Massachusetts has been influenced substantially by human disturbance, including agriculture (especially the cranberry industry), industrial development, and urbanization. Section 4.2.2 of the DEIS provides additional detail describing existing land use conditions within the project study area.

##### **B. Aquatic Resources**

Principal wetland systems and water bodies are described in DEIS sections 4.16.2.1 and 4.16.2.2. Major river systems in the project study area are listed in Table 4.17-1. These streams, rivers, and wetland systems that exist in the project study area and alternatives corridors are described more fully in DEIS sections 4.16 - 4.18.

##### **C. Ecological Functions**



The river, stream and wetland systems within the South Coast Rail project area provide a broad range of ecological functions for the landscape. Field work by MassDOT's consultants and visits to the project study area by Regional staff documented that, taken in total, the stream and wetland systems provide all 13 functions and values listed in the Corps Highway Methodology-Descriptive Approach.<sup>1</sup> While most of these systems do not provide all 13 functions and values individually, some do. With respect to wildlife expected to be found in the project study area, a review of Tables 4.14-1, 4.14-2, and 4.14-3 shows that greater than 80% of birds, 90% of mammals, and 90% of amphibians and reptiles are wetland dependent, respectively. This information is notable and elevates both the importance of these aquatic resources as well as the significance of expected adverse impacts from the proposed project.

L-068.32

Figures 4.16-2a – 4.16-2q, and 4.16-3a – 4.16-8w of the DEIS provide the standard graphical summary of principal functions and values for each individual wetland area that would be impacted directly by each of the South Coast Rail alternatives. This is helpful visually for an overview of wetland functions and values along the various alternative corridors. On the other hand, the DEIS contains neither a detailed narrative explanation of these ecological functions and values nor an explanation of how these wetland specific ecological functions contribute to the functioning of the broader aquatic systems of which they are a part (i.e., a watershed perspective). Such explanations would provide a more thorough understanding of the importance of these aquatic resources as well as the significance of expected adverse impacts from the proposed project. The FEIS should contain these explanations.

L-068.33

### III. DESCRIPTION OF THE PROPOSED ALTERNATIVES

MassDOT and the Corps, in initially surveying the range of possible options, identified 65 potential alternatives for the project by soliciting input from the Massachusetts Bay Transportation Authority, an Interagency Coordinating Group (ICC), the Commuter Rail Task Force, and the public through a series of public meetings. This list was then narrowed down to five alternatives encompassing four routes and three modes for further analysis by MassDOT, and Corps, and the ICC.

In Section 3 of the DEIS, the Corps ultimately evaluated eight different alternatives:

1. No-Build (Enhanced Bus) Alternative
2. Attleboro Electric Alternative
3. Attleboro Diesel Alternative
4. Stoughton Electric Alternative
5. Stoughton Diesel Alternative
6. Whittenton Electric Alternative
7. Whittenton Diesel Alternative

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<sup>1</sup> U.S. Army Corps of Engineers. 1993. The Highway Methodology Workbook: Integrating Corps Section 404 Permit Requirements with Highway Planning and Engineering and the NEPA EIS Process. NEDEP-360-1-30. U.S. Army Corps of Engineers, New England District, Concord, MA.



## 8. Rapid Bus Alternative

### A. No-Build (Enhanced Bus) Alternative

The No-Build Alternative would consist of continued investment in the existing regional transportation network with no new rail or bus service provided in Southeastern Massachusetts. Bus schedules would be enhanced based on existing bus service routes to Fall River and New Bedford. There are no proposals to increase Taunton commuter bus service.

This alternative may include a new expanded park-and-ride/bus station near the Route 24/140 highway interchange, near the Route 106/24 park-and-ride lot, or at the Mt. Pleasant park-and-ride lot. Incentives would also be created to enable private commuter bus service operations to acquire a new fleet of fuel efficient and clean emission buses. The DEIS indicates that regardless of the outcome of MassDOT's proposal, the No-Build alternative is expected to be implemented.

### B. Attleboro Alternatives (Electric and Diesel)

The Attleboro Alternatives would provide new commuter rail service from New Bedford and Fall River to South Station through Attleboro using the New Bedford Main Line, the Fall River Secondary Line, the Attleboro Secondary Line, a new bypass track and the Northeast Corridor. The Boston-New Bedford route would be 60.4 miles long and the Boston-Fall River route would be 57.9 miles long. Both alternatives would be a new rail service without established stopping patterns and would only stop at major stations.

Both alternatives would require eight new commuter rail stations, major reconstruction at three existing commuter rail stations, and minor work at the existing commuter rail station at Route 128. Construction would also include the creation of a third track along the Northeast Corridor between the proposed Attleboro Bypass and the Readville Interlocking in Boston<sup>2</sup>; reconstruction of a new two-track railroad on a new right-of-way between the Northeast Corridor and the Attleboro Secondary; and reconstruction of existing tracks from the Attleboro Bypass to Weir Junction as a single track with one siding. Construction, reconstruction, or widening of 44 bridges and 39 railroad at-grade crossings would also be required. Two overnight layover facilities, one on the New Bedford Main Line and one on the Fall River Secondary Line, would be required as well. Additionally, the Attleboro *electric* alternative would involve construction of a traction power system including one main substation in Taunton, one switching station in Attleboro, and six paralleling stations (one in Norton, one in Berkley, two in Freetown, one in New Bedford, and one in Fall River).

### C. Stoughton Alternatives (Electric and Diesel)

The Stoughton Alternatives would provide commuter rail service to from New Bedford and Fall

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<sup>2</sup> A fourth track option was also evaluated to attempt to address anticipated service deficiencies identified with the three track alternatives.



River to South Station through the Northeast Corridor, the New Bedford Main Line, the Fall River Secondary Line, the Attleboro Secondary to Weir Junction in Taunton and an extension of the existing Stoughton Branch to Taunton. They would extend existing commuter rail services along these corridors with already established stopping patterns. The Boston-New Bedford route would be 54.9 miles long and the Boston-Fall River route would be 52.4 miles long.

Construction for these alternatives would include reconstruction of existing tracks of the Stoughton Line from Canton Junction to Stoughton as a double track; construction of new tracks on existing, abandoned right-of-ways from Stoughton to Winter Street in Taunton as one to two tracks; and reconstruction of existing tracks from Winter Street in Taunton to Weir Junction as a single track. These alternatives, as well as the Whittenton alternative discussed below, include an 8500 foot long elevated trestle that would carry the trains through a portion of Hockomock Swamp. Construction, reconstruction, or widening of 45 bridges and 46 railroad at-grade crossings would be required, as well as construction of ten new commuter rail stations and major reconstruction at two existing commuter rail stations. They would also require two overnight layover facilities, one on the New Bedford Main Line and one on the Fall River Secondary Line. Separately, the electric alternative would require construction of a traction power system including two main electric substations (one in Easton and one in New Bedford), two switching stations (one in Canton and one in Berkley), and six paralleling stations (one in Easton, one in Taunton, two in Freetown, one in New Bedford, and one in Fall River).

#### **D. Whittenton Alternatives (Electric and Diesel)**

The corridor for the Whittenton Alternatives is a variation of the corridor for the Stoughton Alternatives. The corridor would follow the same route as the Stoughton Alternatives but would swing northwest around Taunton and use the inactive Whittenton Branch right-of-way instead of continuing north in a straight line towards Taunton. As a consequence, the Whittenton Alternatives would avoid traversing the Pine Swamp, which the Stoughton Alternatives directly intersect. This alternative would also extend existing commuter rail service with established stopping patterns. The Boston-New Bedford route would be 56.5 miles long and the Boston-Fall River route would be 54.0 miles long.

For this route, the following would need to be constructed: reconstruction of existing tracks of the Stoughton Line from Canton Junction to Stoughton as a double track; construction of new tracks on an existing, abandoned rail right-of-way from Stoughton to Raynham Junction as one to two tracks; construction of new tracks on an existing rail right-of-way from Route 138 in Raynham to Whittenton Junction as a single track; and reconstruction of existing tracks on the Attleboro Secondary from Whittenton Junction to Weir Junction as a single track. Construction, reconstruction, or widening of 42 bridges and 53 railroad at-grade crossings is also required. Construction for commuter rail stations, layover facilities, and the traction power system (for the electric alternative) would be the same as for the Stoughton alternatives.



## **E. Rapid Bus Alternative**

The Rapid Bus Alternative would provide rapid express bus service from New Bedford, Fall River, and Taunton to South Station using a proposed dedicated, primarily reversible bus lane to be built along Routes 24, I-93/128, and 140. North of I-495, buses would use a combination of new zipper bus lanes, new reversible bus lanes, two-way bus lanes, existing zipper HOV lanes, and existing HOV lanes, along with a short section in mixed traffic. South of the I-495 interchange in Raynham, buses would travel in the general purpose lanes with mixed traffic. The Boston-New Bedford route would be 56.4 miles long and the Boston-Fall River route would be 51.5 miles long.

The Alternative would be a new transportation service with four branches. It would create six new rapid bus stations and major expansion of the bus terminal at South Station. Additionally, the Rapid Bus Alternative would provide eight peak period trips between each terminal station and Boston's South Station. Inbound service would originate from New Bedford, Fall River, downtown Taunton, and Taunton Silver City Galleria. Each branch would have a maximum of two stations in the South Coast region.

The Alternative would require improvements to highway infrastructure along Route 24 (construction of a third lane from Route 140 to I-495; widening of Route 24 to accommodate movable barriers; and construction of a zipper bus lane from I-495 to Harrison Boulevard); and Route 128/I-93 (construction of a reversible bus lane from Harrison Boulevard on Route 24 to Logan Express Lot; and construction of a two-lane bus roadway from Logan Express Lot to existing HOV zipper lane on the Southeast Expressway). Twenty bridges and 11 highway interchanges would also have to be constructed, reconstructed, or widened.

## **IV. ALTERNATIVES ANALYSIS**

### **A. Analysis of Alternatives**

EPA's § 404(b)(1) Guidelines prohibit a discharge of dredged or fill material if there "is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences." 40 C.F.R. § 230.10(a). This fundamental requirement of the § 404 program is often expressed as the regulatory standard that a permit may only be issued for the "least environmentally damaging practicable alternative" or LEDPA. Where (as here) the basic project purpose is not water dependent, and it involves fill in wetlands, practicable and less environmentally damaging alternatives are presumed to exist unless clearly demonstrated otherwise by the applicant. The burden to demonstrate compliance with the alternatives test and rebut the presumptions rests with the applicant, in this case MassDOT. Furthermore, the level of documentation needed to demonstrate compliance with the Guidelines – including the alternatives test – is commensurate with the severity of the impact. See 40 C.F.R. § 230.6 and the introductory note to § 230.10.<sup>3</sup>

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<sup>3</sup> See also the August 23, 1993 Memorandum to the Field issued by EPA and the Corps of Engineers entitled



The Corps has defined the basic project purpose in this case as follows: “to more fully meet the existing and future demand for public transportation between Fall River/New Bedford and Boston, Massachusetts.” DEIS at 1-1. The Region participated with the Corps in developing this definition of basic project purpose, and we agree that it represents an appropriate characterization of the project purpose to ensure that a reasonable range of alternatives is examined.

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The Corps characterized the “basic” project purpose as being relevant only to whether a project is water dependent or not. *Id.* The Corps then identified an “overall” project purpose, to be used to evaluate whether there are less environmentally damaging practicable alternatives, as: “to more fully meet the existing and future demand for public transportation between Fall River/New Bedford and Boston, Massachusetts to enhance regional mobility.” *Id.* at 1-2. The Region did not learn of the Corps’ decision to develop a separate “overall” project purpose until we received the DEIS, and we do not agree with the Corps’ establishment of a different project purpose definition to be used in the alternatives analysis. The Region and the Corps’ New England District’s longstanding interpretation and practice has been to define the “basic” project purpose both for determining whether a project is water dependent and for determining whether alternatives are practicable (in light of the basic project purpose).

The Corps relies on the following language in 40 C.F.R. § 230.10(a)(2) to support its approach: “An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of *overall project purposes*.” (emphasis added). However, the very next sentence states that “...an area not presently owned by the applicant which could be reasonably be obtained, managed, or utilized *in order to fulfill the basic purpose of the proposed activity* may be considered.” (emphasis added). Clearly the terms “overall” and “basic” are intended to be used interchangeably. Indeed, the preamble to the Guidelines states, in the discussion of alternatives (as distinguished from the water dependency discussion): “We consider it implicit that, to be practicable, an alternative must be capable of achieving the basic purpose of the proposed activity.” Guidelines Preamble, “Alternatives,” 45 Fed. Reg. 85335, 85339 (December 24, 1980).

The 1993 Highway Methodology Workbook, which the Region and the New England District have utilized for almost twenty years, also treats the two terms interchangeably. For example, on page 5 the Workbook states “The Corps will define this overall/basic project purpose broadly to ensure that a reasonable range of alternatives will be examined,” and “This [NEPA] ‘purpose and need’ differs from the Corps section 404(b)(1) Guidelines statement of ‘overall/basic project purpose.’” In addition, the Workbook repeatedly displays a diagram of the permit process which refers only to the Corps’ identification of the basic project purpose and makes no mention of the establishment of a separate overall project purpose. The Region’s view is consistent with the Corps’ guidance issued in the Hartz Mountain Development Corporation Permit Elevation, which addresses the issue of

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“Appropriate Level of Analysis Required for Evaluating Compliance with the § 404(b)(1) Guidelines Alternatives Requirements.” <http://water.epa.gov/lawsregs/guidance/wetlands/flexible.cfm>



defining the basic project purpose in the context of the alternatives analysis, not water dependency: L-068.34

The Guidelines alternatives analysis must use the “basic project purpose,” which cannot be defined narrowly by the applicant to preclude the existence of practicable alternatives. On the other hand, the Corps has some discretion in defining the “basic project purpose” for each Section 404 permit application in a manner which seems reasonable and equitable for that particular case.

HQUSACE Review Findings, Hartz Mountain Permit Elevation, 1989, at 4.

The Region’s comments on the practicability of alternatives are therefore framed in terms of satisfying the basic project purpose. As discussed further below, however, even if the Corps’ “overall” project purpose formulation were used, we do not believe it would make a difference to our analysis in this case.

The Corps does not identify the LEDPA in the DEIS, but MassDOT does identify the Stoughton family of alternatives as its preferred corridor.<sup>4</sup> DEIR at P-8. Based on the information provided in the DEIS, the Region believes that the only alternatives shown to be impracticable are the Attleboro Alternatives, for reasons discussed below. While the remaining Stoughton, Whittenton, and Rapid Bus Alternatives differ in the extent to which each satisfies the basic project purpose, none has been clearly shown to be impracticable. As discussed in Section V. below, the Region believes that additional information is needed to determine which is the least environmentally damaging to the aquatic environment and, hence, the LEDPA.

### **1. Practicability of the Alternatives**

Before turning to an analysis of the alternatives, we would like to outline our concerns about the process used by the Corps to score the alternatives. The DEIS presents the differences among all of the various alternatives (except for the no-build alternative), by comparing their relative performances under several specific criteria. The best performing alternative under any given criterion is the baseline against which the other alternatives are compared and assigned a relative score, which is then expressed as a letter grade (A through F). While this approach provides a simple way to portray the general and relative performances of each alternative with respect to the evaluation criteria, it has no direct bearing on the question of whether any particular alternative is practicable under 40 C.F.R. § 230.10(a) or can meet the basic project purpose. We believe the approach introduces a bias to the evaluation because it obscures the fact that an alternative that performs less well than the optimum one still can achieve the purpose of the project. The approach may inform the applicant as to which build alternatives are “best” or “better” from its perspective, L-068.35

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<sup>4</sup> MassDOT has not stated a preference between the diesel and electric variations of the Stoughton alternative.



but it does not generate a "score" that addresses whether or not an alternative is practicable. As a result, from the standpoint of the 404 review process, it creates confusion by obscuring the determinative fact that an alternative that performs less well than the optimum one still can achieve the purpose of the project. An alternative that is "practicable" under § 230.10(a) cannot be rejected simply because it does not perform as well as other alternatives, including the preferred alternative. Therefore, in reviewing the factual information presented in the DEIS's alternatives screening discussion, the Region has considered each alternative's performance relative to whether it can meet the basic project purpose in light of costs, logistics, and existing technology, rather than whether it can perform best or better than other alternatives. Furthermore, we strongly recommend that in the FEIS, the Corps should eliminate the score and grade components of the criteria tables, and instead simply present, for each criterion, the performance information for each of the alternatives. This performance information is already contained in the criteria tables, so this change would be simple to implement and would result in a much clearer and more relevant depiction of information related to the practicability determinations.

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**a. The Stoughton, Whittenton, and Rapid Bus Alternatives**

As noted above, in order to be practicable, an alternative must be available and capable of being done. The DEIS does not identify any issues related to the availability of the Stoughton, Whittenton, and Rapid Bus Alternatives. The properties on which the alternatives would be built are all available by virtue of being either owned or obtainable by the Commonwealth.

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"Capable of being done" takes into consideration cost, existing technology, and logistics. The preamble to the Guidelines provides clarification on how cost is to be considered in the determination of practicability: "*Our intent is to consider those alternatives which are reasonable in terms of the overall scope/cost of the proposed project.*" Guidelines Preamble, "Alternatives", 45 Fed. Reg. 85335, 85339 (December 24, 1980). The preamble to the Guidelines also states that "[i]f an alleged alternative is unreasonably expensive to the applicant, the alternative is not 'practicable.'" *Id.* at 85343. The EPA and Corps 1993 Memorandum to the Field (cited in footnote 2 above) emphasizes that "... it is not a particular applicant's financial standing that is the primary consideration for determining practicability, but rather characteristics of the project and what constitutes a reasonable expense for these projects that are most relevant to practicability determinations."

The applicant's preferred alternatives -- Stoughton electric and diesel -- would cost \$1.88 billion and \$1.48 billion, respectively. DEIS at 1-8. We assume, for purposes of this comment letter, that the applicant has determined that the costs associated with the Stoughton alternatives are practicable; otherwise it would not have selected Stoughton to be its preferred alternative. The Whittenton electric and diesel alternatives, at \$1.81 billion and \$1.41 billion, respectively, would be slightly less expensive. *Id.* The Rapid Bus alternative would be the least expensive at \$812 million. *Id.* Thus, none of these alternatives should be rejected as impracticable on the basis of cost.

The DEIS does not identify either technological or logistical issues that would preclude any of these



five alternatives from being considered practicable. Therefore, the key question is whether any of them would fail to satisfy the basic project purpose.

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Considering the various evaluation criteria described in chapter 3 of the DEIS, the Region concludes that all five of the alternatives would satisfy the basic project purpose, i.e., would "more fully meet the existing and future demand for public transportation between Fall River/New Bedford and Boston, Massachusetts." <sup>5</sup> All of them would improve the quality of transit services over existing conditions; meet a substantial portion of ridership demand (ranging from 44% to 63%); and provide a "comparable or competitive travel time and improved reliability" compared to existing peak commuting conditions. *Id.* at 3-123, 3-124. In addition, while not required to satisfy the basic project purpose, all of the alternatives would provide a benefit of reduced vehicle miles traveled.

The DEIS identifies additional "sub-criteria" related to the practicability of the alternatives, using the same scoring approach described above. These sub-criteria are the cost per rider, construction schedule, and on-time performance. None of the information presented related to these criteria demonstrates that any of the five alternatives (Stoughton, Whittenton, and Rapid Bus), would fail to meet the basic project purpose.

The DEIS states that the Rapid Bus Alternative would be the least cost-effective alternative, based on the balance of capital and maintenance costs of the service to the benefit of the service (expressed as the number of riders projected to use the system). *Id.* at 3-130. We have several comments about this criterion. First, the DEIS states that the cost/benefit metric, expressed as cost per rider, includes the cost of environmental mitigation. However, an environmental mitigation plan has not yet been developed, and in the Region's opinion the cost of mitigating the impacts to the aquatic environment from the rail alternatives would be substantially higher than the cost associated with mitigating the impacts to the aquatic environment from the Rapid Bus Alternative (see discussion in Section VI, below). Therefore, we believe that the cost per rider figures portrayed in Table 3.3-11 (DEIS at 3-131) are incomplete and inaccurate. We expect that including the likely mitigation costs would bring the cost per rider figures closer together. In addition, even if there is a substantial disparity in cost per rider, that does not render the Rapid Bus Alternative impracticable or unable to meet the basic project purpose. From an overall cost standpoint (which is how practicability is evaluated), it is the least expensive alternative, and it would, notwithstanding the cost per rider, meet a substantial portion of ridership demand (44%), thus "more fully meet[ing] existing and future demand for public transportation...." Furthermore, we note that the cost per rider estimate for Rapid Bus was approximately \$32 in a Cost Effectiveness Comparison distributed at an Interagency Coordinating Group meeting in 2009, as compared with the nearly \$100 estimate included in the DEIS. The FEIS should explain why the cost per rider estimate for Rapid Bus increased by over 3-fold between these two documents, as compared with the other alternatives for which the cost estimate changed little, if any.

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<sup>5</sup> We do not necessarily agree that every criterion evaluated in the DEIS is essential to the determination of whether an alternative would be practicable and satisfy the basic project purpose. For the purpose of this comment letter, we have nonetheless considered the information provided for each criterion.



The DEIS also evaluates whether the alternatives would improve regional mobility. As discussed above, the Corps identified the “overall” project purpose to be “to more fully meet the existing and future demand for public transportation between Fall River/New Bedford and Boston, Massachusetts to enhance regional mobility.” This is the same as the basic project purpose with the addition of the clause “to enhance regional mobility.” While the Region does not agree with the Corps’ distinction between “basic project purpose” and “overall project purpose” from the standpoint of the alternatives analysis, in this particular case we do not believe there is a meaningful difference between the two. That is, more fully meeting the demand for public transportation between Fall River/New Bedford and Boston will, by definition, enhance regional mobility.

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In evaluating regional mobility, the DEIS considered both the connectivity between Fall River/ New Bedford and Boston, and interregional connectivity. All of the alternatives clearly enhance mobility between Fall River /New Bedford and Boston.

The Region believes that the goal of improving interregional connectivity, similar to MassDOT’s goal of supporting smart growth planning and development strategies in the affected communities, is properly viewed as a desirable benefit of the project rather than a fundamental aspect of the basic project purpose (or even the “overall” project purpose as described by the Corps). In other words, the absence of improved interregional mobility would not be a proper basis for concluding that an alternative fails to meet the basic project purpose. Nonetheless, we note that all of the alternatives do improve interregional connectivity to some extent, although the rail alternatives would be much more effective in this regard than the Rapid Bus Alternative. We also note that MassDOT envisions a feeder bus service to train stations “to connect the urbanized communities in the study area to the South Coast stations.” DEIS at 1-17. This feeder bus network would provide enhanced bus service from the communities to the train stations to provide an alternative to driving to stations. *Id.* The FEIS should evaluate whether an expansion of the local bus network as an adjunct to the Rapid Bus Alternative would further enhance interregional connectivity.

We recognize that the Rapid Bus Alternative does not perform as well as the rail alternatives for some criteria. We also believe that there may be additional steps that could be taken that would result in better performance of this alternative. We recommend that the FEIS evaluate the following issues related to the Rapid Bus Alternative:

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\* Performance: We note that travel speeds for the Rapid Bus service are based on the posted speed of the adjacent travel lanes. The FEIS should discuss areas like Route 24 where the bus will operate in its own designated lane and whether the bus route can be designed to be operated safely at higher speeds to reduce overall travel times for this alternative.

\* Congestion: The FEIS should describe solutions that could be implemented to address congestion that the bus service will face as it enters the mixed traffic portion of its route along the Southeast Expressway. Improvements to address congestion issues will benefit the Rapid Bus Alternative as well as the general commuting public utilizing shared portions of the proposed travel corridor.

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\* **Ridership:** Ridership on the Rapid Bus Alternative suffers due to a number of issues described in a May 2010 Central Transportation Planning Staff memo in DEIS Appendix 4.1-J (page 10). That memo reads in part, "There are five major factors contributing to why the rapid bus alternatives produces lower performance measures, than the commuter rail alternatives. These factors are:

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- Run times are longer to South Station, with the exception of bus only versus Whittenton Diesel, in which the rail alternative is three minutes slower than the Rapid Bus Alternative.
- The commuter rail alternatives serve several more stations
- Lack of connectivity with the Orange Line Station
- Transfer times between the rapid bus and the rapid transit lines are a little longer than with the commuter rail lines
- Fewer new stations being provided in areas of proposed growth
- Lack of intra-regional connectivity / no intermediate stations

Together these factors produce between 52% and 65% of the daily boardings and 35% to 50% of the auto diversions that, for instance, the Stoughton Diesel rail alternatives produce."

The FEIS should make it clear whether any one change, or combination of changes, to the Rapid Bus Alternative would result in a meaningful change in ridership. In particular, the FEIS should explore what it would take to provide a connection between the proposed Rapid Bus service and the MBTA's Orange Line and what effect additional stations in areas of proposed growth could have on ridership.

\* **Rapid Bus Equipment:** The DEIS at Page 3-110 indicates that buses "could" feature amenities. Based upon comments made by MassDOT representatives and its consultants throughout the process leading up to the DEIS, it has been our understanding that the buses "would" be "state of the art" with comfortable seating and wifi, etc., to attract ridership and give high quality service. We believe that the FEIS should be revised to reflect previous verbal commitments by the Commonwealth to provide this level of service for the Rapid Bus.

L-068.42

#### **b. The Attleboro Alternatives**

EPA is persuaded, based on the information in the DEIS, that the Attleboro Alternatives would fail to meet the basic project purpose due to an interlocking set of confounding performance/logistical issues which characterize this alignment alone.

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As background, transportation modeling underlying the DEIS indicates that the limiting condition for all rail scenarios is the terminal throat interlocking capacity and terminal approach capacity at South Station. DEIS, Appendix 3.2-A (Systra Consulting, Inc., A Draft Network Simulation Analysis, August 2009) at 14. When capacity is reached and exceeded by train volume, congestion



in the terminal throat causes late arrivals. These in turn further exacerbate the problem of expeditiously clearing or loading platform tracks. The Northeast Corridor (“NEC”) is another potential capacity bottleneck. DEIS at 3-133; Appendix 3.2-B (Systra Consulting, Inc., Technical Memorandum, Analysis of South Coast Rail Attleboro Alternative PM Peak Period, Using Back Bay as Northerly Terminal (Tower I and South Station Effects Removed), October 29, 2009). The NEC is an active rail line running between New York and South Station in Boston. From Attleboro to Boston, the corridor experiences heavy use, including Amtrak Regional and Acela service, MBTA commuter rail service, and freight rail service. The Attleboro Alternatives would provide commuter rail service to South Station using the Northeast Corridor, proposed Attleboro Bypass, Attleboro Secondary, New Bedford Main Line and Fall River Secondary.

The Attleboro Alternatives suffer from the combination of severe logistical issues. First, they would cause overwhelming congestion in the Tower 1 terminal interlocking throat at South Station. This issue is distinct for the Attleboro Alternatives, because they would entail the introduction of new trains to the system, rather than extensions of existing trains as under the Stoughton and Whittenton Alternatives. As a result, they fail, under any modeled scenario (even at substantially reduced train volumes), to achieve the MBTA on-time standard in the morning peak and fare even worse in the evening peak. The overall on-time performance for the diesel alternative would be less than 50%, and the electric alternative would be on time only slightly more than 50%. DEIS at 3-132. Additionally, the Attleboro Alternatives would cause or compound on-time performance issues throughout the regional south side transportation system, including Worcester, Franklin, Needham, and Providence Lines.

To determine whether the performance of the Attleboro Alternatives could be improved independent of the South Station capacity issue, the DEIS evaluated a modeled scenario that effectively removed the South Station constraint by terminating rail service at Back Bay Station. This scenario revealed that the NEC by itself acts as a bottleneck with respect to the Attleboro Alternatives. Irrespective of South Station constraints, the NEC north of the Readville Station lacks adequate capacity to support increased train volumes associated with the Attleboro Alternatives. An Attleboro-to-Back Bay scenario would still operate with unacceptable on-time performance, while negatively impacting the on-time performance of four other south side commuter rail lines. For example, on time performance for AM peak period trains for the electric Attleboro alternative would be 84.6%—meaning that that 15.4% of the northbound commuter rail trains serving the Needham, Franklin, Providence and Stoughton lines would arrive late every morning—and 64.1% for the PM peak. DEIS, Appendix 3.2-B, Memorandum of MassDOT to Army Corps on South Station Planning and South Coast Rail (May 5, 2010), at 6. While this is an improvement over the Attleboro-to-South Station alternatives, it falls below the MBTA service policy and is well short of the performance of the No-Build scenario. DEIS, Appendix 3.2-B (Systra Consulting, Inc., Technical Memorandum, Analysis of South Coast Rail Attleboro Alternative PM Peak Period, Using Back Bay as Northerly Terminal (Tower I and South Station Effects Removed), October 29, 2009), at 3. Thus, the DEIS indicates that even after assuming away the South Station choke point, the Attleboro Alternatives



still result in major cascading problems on the NEC.<sup>6</sup>

To break the NEC bottleneck and ensure that the Attleboro Alternatives would have an acceptable on-time performance, the DEIS concluded that a fourth track would need to be constructed alongside the NEC. The additional fourth track would begin near Readville Station; extend through Forest Hills Station and Ruggles Station/Massachusetts Avenue; and terminate at Back Bay Station. As explained by the DEIS, this potential fix would itself raise an array of issues sufficiently significant and complex to render it logistically impracticable. It is estimated that it would take between 10 to 12 years to construct the fourth track, with a cost of an additional \$2.48 billion. Among other things, the project would require placing the Orange Line in an approximately 2-mile tunnel from Ruggles Station through Back Bay (with the 1.4-mile stretch from Ruggles Station to Massachusetts Avenue requiring new construction); rehab and replacement of almost one mile of existing subway tunnel to accommodate commuter rail trains; shuttle service, at an estimated cost of \$281,000,000, to continue servicing the riders of the Orange Line during construction of the connections to the tunnel; major renovation (defined as reconstruction of headhouses, vertical circulation, and platforms) of six stations; acquisition of nine residential, commercial, or state properties; and significant property impacts due to construction or operation of the fourth track, including to Southwest Corridor Park, a 4.7 mile, 52-acre linear park stretching from Forest Hills Station to Back Bay Station that is owned and maintained by the Massachusetts Department of Conservation and Recreation. Permanent impacts to Southwest Corridor Park would result from the loss of 2.85 acres of parkland, and temporary impacts would include the loss of 8.54 acres of parkland throughout construction.

The Region believes that the DEIS demonstrates that the Attleboro Alternatives would not be practicable alternatives to meet the basic project purpose because they would offer very untimely service even at comparatively infrequent intervals, combined with the fact that they are predicted to compromise, rather than enhance, the existing public transportation infrastructure. Moreover, the only way to remedy these deficiencies is to construct a fourth track, which itself has serious flaws that render it impracticable, including an additional cost that would more than double the overall cost to greater than \$4 billion; a significantly longer (4-5 years vs. 10-12 years) construction schedule; lengthy and substantial disruptions to the existing Orange Line commuter services and an important inner city park that runs through environmental justice communities; and a wide-ranging, complex subsurface construction project (with all its attendant uncertainties) in the center of Boston.<sup>7</sup> For all of these reasons, EPA believes it is reasonable to dismiss the Attleboro Alternatives from further consideration.

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<sup>6</sup> The Attleboro Alternatives would have a greater impact on the Northeast Corridor than the other alternatives for two main reasons. First, they would use a longer segment of the NEC corridor (29 miles for the Attleboro Alternative compared to 15 miles for the Stoughton Alternative and Whittenton variant). Second, they would entail new trains, not extensions of existing trains as under the Stoughton Alternatives and Whittenton variants, thereby requiring new operating slots on 29 miles of the already congested NEC.

<sup>7</sup> We also note that the Federal Rail Administration has indicated to the Corps that it considers the fourth track alternative to be infeasible. *Id.* at 1-24.



### c. Conclusion

In conclusion, the Region believes that, based on current information in the DEIS, the Stoughton, Whittenton, and Rapid Bus Alternatives are all practicable and would meet the basic project purpose. We also believe that further evaluation of issues associated with the Rapid Bus Alternative should be conducted to determine the extent to which there could be improvements in that alternative's overall performance. Finally, we agree that the Attleboro Alternatives are not practicable alternatives and need not be considered further.

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## V. ADVERSE ENVIRONMENTAL IMPACTS

According to the DEIS, the construction of the Rapid Bus and Rail Alternatives would have substantial adverse impacts to aquatic resources and wetland dependent wildlife. See DEIS sections 4.16.3.1 – 4.16.3.5.

DEIS section 4.16.3.2 describes the methodology used to evaluate direct adverse impacts and explains that “[e]ach alternative corridor was assessed for the presence of wetland resources within and adjacent to the right-of-way, and the impacts associated with them. For purposes of this evaluation, wetlands within 100 feet of the right-of-way are considered to be adjacent.” In footnote 1 for Table 4.16-38 on page 4.16-56, the DEIS further explains that the 100 foot distance was measured from the centerline of each corridor. The Region believes that the 100 feet should have been measured from the edge of clearing for the corridor right-of-way for a more accurate inventory of aquatic resources and a better evaluation of adverse impacts.<sup>8</sup>

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With respect to vernal pools, on page 4.14-16, the DEIS states that, “[p]otential vernal pools do not receive protection under the Massachusetts Wetland Protection Act Regulations, *or under any other state or federal wetlands protection laws*” (emphasis added). This statement is inaccurate, as pools that do not meet state certification criteria may still be subject to federal jurisdiction and regulated under the CWA. Also, it appears that for the purposes of the alternatives analysis and impact evaluation, only those vernal pools within 100 feet of the centerline for an alternative were evaluated. Although the Region recognizes that time constraints and resource limitations make it challenging, it should be recognized that in order to properly assess the impacts of each alternative upon vernal pool resources, all pools (whether certified or potential) within at least 300 feet of the limit of disturbance (not the centerline) should be identified and evaluated.<sup>9</sup> Existing literature, especially Calhoun and deMaynadier (2008) and Klemens and Calhoun (2002)<sup>10</sup>, suggest that

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<sup>8</sup> The Region made this point at a meeting of the Wetlands Working Group. See meeting summary of April 16, 2009.

<sup>9</sup> This wider zone for identification and evaluation of vernal pool impacts would only apply to portions of the alternatives corridors that are not currently bordered by development or other intensive land uses.

<sup>10</sup> Calhoun, A.J.K. and P.G. deMaynadier (editors). 2008. Science and Conservation of Vernal Pools in Northeastern North America. CRC Press, Boca Raton, FL.

Calhoun, A.J.K. and M.W. Klemens. 2002. Best development practices: conserving pool-breeding amphibians in



distances up to 750 feet may be relevant in some landscapes. For the situation here, 300 feet (see footnote 6) is clearly reasonable.<sup>11</sup> Field work in 2008 and 2009 identified several pools which had not previously been identified, and certified several pools previously classified as potential using state guidelines. It would be helpful for the FEIS to include a description of the methodology that was used for locating and documenting vernal pools in the field in order to better understand the possibility that additional pools may have been missed.

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Sections 4.16.3.3 – 4.16.3.5 present quantifications of impacts to aquatic resources according to both state and federal laws. The quantifications are confusing. Except for the explanation on page 4.16-61 that equates the Commonwealth's bordering vegetated wetlands category with wetlands under Clean Water Act section 404, little else is clear. For instance, in Table 4.16-57, it is unclear if the Commonwealth's category of bordering land subject to flooding (BLSF) also would be jurisdictional, either in whole or in part, under CWA section 404. The FEIS needs to clearly present impact acreage and characterizations separately according to Massachusetts law, then for the federal Clean Water Act.

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As explained above under Section IV, the Region believes that the information describing the logistical challenges for constructing and operating the Attleboro Alternatives (electric and diesel) renders them impracticable. Therefore, we do not address adverse impacts for the Attleboro Alternatives, concentrating instead on the Rapid Bus, Whittenton, and Stoughton Alternatives.

#### **A. Water Quality Impacts (Section 230.10(b))**

The DEIS, particularly Section 4.17 (Water Resources), presents an adequate evaluation of water quality impacts that could result from construction and operation of the Rapid Bus, Stoughton and Whittenton Alternatives. The discussion and conclusions are sound. However, the Region recommends that MassDOT confirm the classifications identified for the water bodies described in section 4.17.2.2 with the Massachusetts Department of Environmental Protection ("MassDEP"). For example, we believe that MassDEP considers the Assonet River to be Class SA, not Class B. Water quality classifications can be a confusing area because some water bodies change names as they flow through different towns. Though this will likely not change the conclusions drawn on the impacts to water resources, addressing this point in the FEIS would ensure an accurate assessment of water quality impacts.

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#### **B. Significance of Impacts (Section 230.10(c))**

##### **1. Direct Impacts**

##### **a. Rapid Bus**

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residential and commercial developments in the northeastern U.S. MCA Technical Paper No. 5. Metropolitan Conservation Alliance, Wildlife Conservation Society, Bronx, NY.

<sup>11</sup> See footnote 8.



As shown in Table 4.16-57 of the DEIS (page 4.16-97), the Rapid Bus Alternative would result in approximately 21.5 acres of wetlands being directly filled. In addition, approximately 2.1 acres of vernal pools would be filled, bringing the total acreage for direct filling to wetlands and other waters of the U.S. to approximately 23.6 acres. This alternative would require modifications to 13 existing stream crossings. In addition to permanent impacts, there would be approximately 8.7 acres of temporary direct impacts to wetlands, 1.4 acres of temporary direct impact to vernal pools, and temporary alteration of 1,120 linear feet of “bank.”<sup>12</sup> The filling would result from numerous, mostly small fills along both sides of the widened and improved roadways. A few larger fills would occur within the medians of Interstate 93 and State Route 24, and within the confines of existing interchanges along State Route 24.

L-068.50

While the acreage for both wetlands filled and total waters filled would be greatest under this alternative, the Region believes that the severity of the impact upon the affected wetlands and waters would be less than that associated with the Stoughton and Whittenton alternatives. The existing roadways that would be widened and upgraded are heavily used roadways along mostly developed corridors where the adjoining wetlands and waters are, in numerous locations, already degraded. The small, incremental filling of wetlands and other waters along those existing roadways that would occur at numerous locations would have mostly minor to moderate adverse impacts to those aquatic resources. Some water quality maintenance functions would be affected, as would small amounts of wildlife habitat. As described in section 4.15.3.3, the Rapid Bus Alternative would have the fewest adverse impacts upon rare wetland dependent wildlife species. Individually and cumulatively, the Region would not be seriously concerned about these impacts. Still, these adverse impacts would require some degree of compensatory mitigation to address their harmful effects.

L-068.51

#### **b. Stoughton and Whittenton**

As shown in Table 4.16-57 of the DEIS (page 4.16-97), the Stoughton Alternative (diesel or electric) would fill approximately 11.9 acres of wetlands and 1.7 acres of Outstanding Resource Waters, for a total of 13.6 acres of direct wetland fill. This total does not include an uncalculated amount of fill in wetlands identified as “Other Federal” but not quantified (see Tables 4.16-3 to 4.16-7 and 4.16-18 to 4.16-22). Approximately 68% (8.1 acres) of the impacts to wetlands would occur to forested wetlands. In addition to the permanent impacts there would be 12.6 acres of temporary direct impact to wetlands and 2.6 acres of temporary direct impact to vernal pools. There are 132 stream crossings (68 in the Southern Triangle); 34 of the affected streams are perennial. It is unclear whether impacts or modifications would occur to all of these crossings, as the DEIS states that exact impacts will be calculated during the final design process once a LEDPA is determined. This alternative also would alter approximately 3,480 linear feet of “bank, plus an additional 1,216 linear feet of temporary impacts to bank.” *Id.*

L-068.52

<sup>12</sup> As explained more generally immediately above, it is unclear what portion of this figure represents areas that would come under the jurisdiction of CWA section 404, or whether this portion is represented by another category of resource impact. Again, the FEIS needs to explicitly and separately clarify jurisdictional waters of the U.S.



As shown in Table 4.16-57 of the DEIS (page 4.16-97), the Whittenton Alternative (diesel or electric) would fill approximately 10.3 acres of wetlands and about 1 acre of Outstanding Resource Waters, for a total of approximately 11.3 acres of direct wetland fill. This total does not include an uncalculated amount of fill in wetlands identified as "Other Federal" but not quantified (see Tables 4.16-3 to 4.16-7). Approximately 66% (6.9 acres) of direct fill would occur in forested wetlands. In addition to the permanent impacts there would be 10.4 acres of temporary direct impact to wetlands and 1.3 acres of temporary direct impact to vernal pools. The number of stream crossings is unspecified, but there would be at least 68 within the Southern Triangle. This alternative also would alter the same approximately 3,480 linear feet of bank, plus 1,216 feet of temporary bank impact as the Stoughton Alternative. *Id.*

L-068.53

Both the Stoughton and the Whittenton corridors would pass through the Hockomock Swamp, which represents one of the few remaining bioreserves in southern New England that provide enough contiguous habitat to support area sensitive wildlife in a safe and stable condition. EPA designated the Hockomock Swamp as a Priority Wetland based on its high quality characteristics (including wildlife habitat value) and vulnerability to environmental degradation in September, 1987. The Commonwealth designated it an Area of Critical Environmental Concern ("ACEC") in 1990. The designation document states "The Hockomock Swamp clearly is unique in all of Massachusetts. It is the largest vegetated freshwater wetland in Massachusetts. Its significance is enhanced by the fact that so many resource features are present in this area - wetlands, floodplains, rivers and streams, lakes and ponds, extensive wildlife and rare and endangered species and natural areas, regional aquifers, farmlands, historic and archaeological resources, and scenic views and landscapes. The uniqueness of the habitat of the Hockomock area cannot be overstated."<sup>13</sup> In addition, the Stoughton corridor would pass through the ecologically significant Pine Swamp, which is an Atlantic White Cedar wetland that supports a state-listed butterfly. The direct permanent and temporary adverse impacts to these important aquatic resources and to other wetlands and streams in the corridor, would, in the Region's view, be substantial and more severe than those associated with the Rapid Bus Alternative.

## **2. Secondary Impacts**

### **a. Aquatic Resources**

Secondary impacts are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. The DEIS (page 4.16-63) correctly defines secondary impacts and provides an accurate generic discussion of the types of secondary impacts that must be considered. The DEIS explains that along existing active rail lines (e.g., the Fall River Secondary), secondary impacts would likely be "negligible" because "reconstruction of the right-of-way ... would not result in additional fragmentation of aquatic habitat because the existing embankment would be re-used and existing culverts and bridges would be replaced in-kind." Generally, the Region agrees and is less concerned about secondary adverse impacts to adjoining wetlands and water bodies where there are existing,

<sup>13</sup> [http://www.mass.gov/dcr/stewardship/acec/acecs/designations/hock\\_des.pdf](http://www.mass.gov/dcr/stewardship/acec/acecs/designations/hock_des.pdf), at 7-8.



active rails lines. In contrast, the Region is greatly concerned about secondary adverse impacts to aquatic resources along those portions of the Stoughton and Wittenton corridors where no embankment exists or where a narrow embankment has been abandoned for decades and the forest canopy now is mostly unbroken. Section 4.14 on Biodiversity, Wildlife and Vegetation, presents a thorough description and reasonable evaluation of secondary adverse impacts upon aquatic resources and wetland dependent wildlife. Still, we believe that the evaluation is lacking adequate detail in a few areas, as explained below.

L-068.54

Along portions of the rail corridors where we are more concerned, examples of secondary impacts that may result from this project include downstream changes in hydrology and water quality, decreased primary productivity due to removal of vegetation, and habitat fragmentation and degradation. Degradation of habitat specifically refers to a decrease in the health or ecological integrity of the existing habitat. Edge effect can be viewed as a reduction in habitat integrity at the boundary of a transportation corridor caused by construction disturbance, vegetation clearing, storm water runoff, or other degrading factors that extend into the natural habitat. For example, the DEIS explains that, “[i]n locations where single track sections are proposed (much of the Southern Triangle, sections of the Stoughton Line and along the Whittenton Branch), the canopy gap will vary between approximately 40 to 80 feet in width. In locations where double track sections are proposed, the canopy gap will vary between 60 to 100 feet in width.” Page 4.16-80 of the DEIS notes that “[c]anopy clearing would be required along the right-of-way where the elevated trestle would be located within the Hockomock Swamp to accommodate additional height requirements associated with the trestle. Canopy clearing generally occurs within upland forest, though portions would occur in wetland resources. Canopy clearing would not result in additional impacts to wetland resources as this work would occur in uplands.” We disagree with this assessment of the potential for additional impacts. In forested wetlands with a closed or nearly closed canopy, e.g., substantial portions of the Stoughton alignment through the Hockomock Swamp, even an opening of 40 feet could set in motion serious immediate and longer term secondary adverse impacts to adjoining wetlands and wetland dependent wildlife. The FEIS should provide a more thorough and specific evaluation of the potential for adverse impacts from canopy clearing, especially across the Hockomock Swamp.

Several types of environmental harm would result from the construction and operation of the Stoughton or Whittenton Alternatives. Outright loss of between approximately 10 – 12 acres of wetland habitat would occur. Adjacent aquatic and wetland habitats would be damaged by sedimentation during construction. Even with standard erosion and sediment control measures, decades of experience with these types of projects shows that it is common that physical barriers/controls are not maintained as well as they should be and damage to adjoining aquatic resources occurs. In addition, and especially in forested and shrub wetlands, loss of canopy cover would increase surface and water temperatures and alter light penetration into adjoining areas. Surface water circulation and flow patterns could be altered, possibly drying out some wetlands or making others wetter, both of which would result in substantial changes to plant and wildlife communities. Interruption and/or other decreases of the nutrient production and export functioning of some of these wetland systems to be filled or affected could occur, damaging downstream aquatic

L-068.55



communities. All of these adverse impacts would contribute to fragmentation effects that would be caused by both these rail alternatives, and lead to an overall decrease in the productivity and functioning of the affected aquatic systems. The nature, extent, permanence, and severity of these types of secondary impacts need to be more fully evaluated in the FEIS. L-068.55

With respect to methods employed to evaluate secondary impacts, on page 4.14-20, the DEIS explains that only vernal pools located within 100 feet of the centerline for an alternative were analyzed. For the Stoughton Electric Alternative, Table 4.14-13 shows that 91 vernal pools would be adversely affected by direct and secondary impacts. For the Whittenton Electric Alternative, Table 4.14-16 shows that 68 vernal pools would be adversely affected by direct and secondary impacts. However, and as explained above, that 100 foot distance is inadequate to properly assess secondary adverse impacts. It is likely that additional pools that would be affected by secondary adverse impacts from construction and operation of the Stoughton and Whittenton Alternatives were not included in the evaluation. For example, on page 4.14-36, the DEIS explains that for the Stoughton Alternative, “[t]here are several other clusters of vernal pools near the Stoughton Line, located outside of the 100-foot buffer, including a cluster of certified and potential vernal pools south of the North Easton station site; a cluster of certified vernal pools in Easton, between Foundry Street and the utility corridor; a cluster of potential vernal pools north of Bridge Street in Raynham; and a cluster of potential vernal pools south of Pine Swamp in Raynham and Taunton. Vernal pools in the Hockomock Swamp found between Foundry Street and Raynham Park also support a large population of spotted turtles (*Clemmys guttata*), no longer a state-listed species but still an important biodiversity concern.” Impacts to these additional pools should be factored into the analysis to enable a thorough evaluation of each alternative so that the alternative that would be least damaging to aquatic resources can be identified.<sup>14</sup> L-068.56

#### **b. CAPS analysis**

Section 4.14 of the DEIS provides a comprehensive overview of biodiversity within the project study area. It also provides a useful discussion of several of the types of secondary impacts that can adversely affect biodiversity, i.e., fish and wildlife communities and plant communities. Beginning on page 4.14-68, the DEIS discusses the University of Massachusetts’ Conservation Assessment and Prioritization System (CAPS) model, which was used to assess both direct and secondary adverse impacts upon biodiversity for the Rapid Bus and each of the rail alternatives. As a landscape level approach for evaluating broad changes (i.e., secondary impacts) in biodiversity, the CAPS analysis is helpful for understanding longer-term biodiversity shifts that may occur.

On the other hand, we note that the CAPS model does not appear to be particularly useful when focusing on specific ground level features at a narrower scale. In the Summary Notes of Meeting for the South Coast Rail Wetlands Working Group from its April 16, 2009 meeting, the group discussed wetlands functional evaluation methods and the CAPS model specifically as a wildlife (or biodiversity) assessment method. A representative of Louis Berger, the Corps’ consultant, cautioned that CAPS has its limitation. He noted that functional assessment tools need to account L-068.57

<sup>14</sup> The same approach might also identify additional vernal pools along the Rapid Bus corridor that could be affected.



appropriately for incremental fills along existing corridors to avoid exaggerating factors such as fringe impacts, and to attribute higher value to affected wetlands as a unit. Whereas the CAPS model may better accomplish the second point with respect to treating wetlands as a unit or system, it does not appear to be sensitive enough to accurately evaluate incremental fills or particular ground features in specific locations. For example, the CAPS model results show no loss of Ecological Integrity Units (EIUs) for the Rapid Bus Alternative because, as the DEIS explains on page 4.14-99, “roadway geometry and other area changes associated with the Rapid Bus Alternative fall below the resolution of the CAPS model which operates at a landscape level of scale.” Further, Table 4.14-23 Loss of Index of Ecological Integrity Units, summarizes the CAPS model results for the four rail alternatives and the Rapid Bus. The results show a difference of 7.2 EIUs lost between the Stoughton Alternative with a trestle and without (456.9 IEUs v. 464.1 EIUs, respectively), which is surprisingly small. The difference for the Whittenton Alternative is the same. At several meetings of the Wetlands Working Group, it was widely agreed that a trestle was substantially advantageous for reducing adverse impacts to wildlife, especially to address the barrier effect of a solid fill rail bed. If relying on the CAPS model results, one would be hard pressed to reach the same conclusion. Finally, the CAPS model does not assess watershed level impacts and changes to, among other wetland functions, hydrologic flow (other than connectivity), nutrient production and export, or nutrient removal/retention/transformation.

L-068.57

Our point is that the CAPS results are helpful when considering broad landscape level biodiversity changes to the South Coast Rail project study area with an operating rail line and without, but are not especially useful in distinguishing adverse impacts among particular rail alternatives to inform a determination of the alternative that is least damaging to aquatic resources. We recommend that the FEIS clarify the relevance and importance of the CAPS model results.

### **3. Significance of Impacts**

As explained above, the Region seeks a variety of additional information about the extent, nature, and severity of direct and secondary adverse impacts to aquatic resources within the Stoughton and Whittenton rail corridors. Until we have evaluated that additional information, in combination with the information provided in chapter 5 of the DEIS (related to the cumulative effects on the aquatic ecosystem stemming from induced growth), we cannot reach conclusions regarding the significance of those adverse impacts and whether those alternatives could comply with section 230.10(c) of the section 404(b)(1) Guidelines.

L-068.58

## **VI. MINIMIZATION MEASURES AND COMPENSATORY MITIGATION**

For a permit application to comply with § 230.10(d) of the 404(b)(1) Guidelines, the proposal must include all appropriate and practicable steps to compensate for unavoidable impacts. Furthermore, where the adverse impacts from an alternative would cause or contribute to significant degradation of waters of the U.S., the compensatory mitigation plan must first prevent or offset the environmental damage to an extent sufficient to comply with § 230.10(c) of the Guidelines (i.e., the



net impacts must no longer be significant). Whether a mitigation plan succeeds in sufficiently reducing significant impacts normally depends upon the extent to which it replaces or offsets the harm to the aquatic environment from the project. In this case, the types of aquatic resources most severely damaged by direct and secondary impacts would be forested and shrub wetlands, and vernal pools. It is technically difficult to restore or create these habitats successfully, let alone replicate the juxtaposition of habitats that results in the high biodiversity of large portions of the project study area. Furthermore, there are myriad risks inherent in wetland restoration and especially creation that make these already difficult ventures more perilous. Among others, these risks include mistakes in project site analysis and engineering design; imperfect project implementation; and unforeseen natural events such as drought or severe storms. For example, the hydrology of forested and shrub wetlands is quite complex and difficult to duplicate. It would take at least several years to be able to make an initial judgment about whether an attempt to restore or create a forested wetland is successful; to establish a fully functioning system could require more than a decade. Moreover, we know of few instances of well-documented, persistent, and fully established forested wetland creation.

## 1. Minimization Measures

### a. Culvert Crossings

On page 4.16-60 of the DEIS, it notes that “[t]o the extent practicable, new or replaced culverts would be designed to comply with the Massachusetts Stream Crossing Standards. Where the stream crossing standards could not be met, stream crossings would be improved to the greatest extent practicable.” The DEIS notes on page 4.14-72 that the design of each culvert will be evaluated during the final design process to assess the potential effects on hydrology, stream flow, and fisheries. The Region supports these improvements to culverts for all stream crossings, regardless of the alternative selected.

L-068.59

On page 4.16-70 of the DEIS, it notes that “reconstruction of the right-of-way associated with the New Bedford Main Line would not result in additional fragmentation of aquatic habitat because the existing embankment would be re-used and existing culverts and bridges would be replaced in-kind, subject to consideration of the need not to compromise wetland hydrology.” We strongly recommend that, when considering any stream crossings where concerns arise about adverse impacts to up- or down-gradient wetland hydrology, the FEIS specifically provide that MassDOT will, whenever practicable, utilize culvert designs that maintain hydrologic flows and improve wildlife movements across the ROW. Possibilities include dry culverts for wildlife passage, or constructing culverts with grade control devices at inlets.

L-068.60

### b. Wildlife Passage

Page 4.14-98 of the DEIS explains the use of “turtle gates” as a construction period mitigation measure that may be used to allow small vertebrates to cross the right-of-way during critical breeding periods. In addition to the temporary use of turtle gates during construction, under-rail

L-068.61



troughs and other permanent features such as the “critter crossings” constructed on the MBTA Greenbush line should be fully considered where appropriate and practicable along the right-of-way. This feature is discussed on page 4.14-109 of the DEIS as a potential measure to minimize the direct and secondary impacts on biodiversity. Page 4.14-110 of DEIS explains that the wildlife crossings constructed along the MBTA Greenbush Line have been shown to be used by numerous wildlife species, reducing the barrier effect of the rail. The FEIS should include more detailed information about potential locations for and design of wildlife crossings for all the alternatives.

L-068.61

### **c. Trestle**

On page 3-66 and 3-67, the DEIS describes features of the Stoughton Alternative, including that “[a] trestle section is proposed in Easton and Raynham to minimize environmental impacts to the Hockomock Swamp Area of Critical Environmental Concern.” Elsewhere in the DEIS, it explains that the proposed trestle would be 8,500 feet long. Though the descriptions in the DEIS appear to include the trestle as a standard feature for the Stoughton Alternative, the FEIS should be explicit that the trestle is the only way the Stoughton (or Whittenton) Alternative would be considered and constructed. Furthermore, and again for the Stoughton Alternative, the Region believes that the FEIS should also include an evaluation of installing a trestle for the Pine Swamp crossing for the same reasons that the trestle is incorporated into the Hockomock Swamp crossing.

L-068.62

On a related point, we did not see the issue of trestle maintenance and emergency access addressed within the DEIS. The FEIS should describe how maintenance and emergency access will be accomplished along the 1.6 mile long Hockomock Swamp trestle crossing, especially if additional filling would be needed to construct a permanent or temporary access road.

L-068.63

## **2. Compensatory Mitigation**

On page 4.16-104 of the DEIS, the section on Mitigation Goals and Objectives states that, “[t]he quantity of estimated permanent impacts and the associated proposed mitigation goals that have been identified are presumed to be an overestimation attributed to the methodology used to perform wetland delineation along the alternatives ... It is expected that wetland impacts and the associated mitigation area requirements would decrease following field delineation.” The Region is less sanguine in this respect. While some aquatic resources may have been overestimated, it is likely that others have been missed or underestimated.

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In section 4.16.3.6, the DEIS describes federal and state requirements for compensatory mitigation, as well as a conceptual framework and approach for how MassDOT will develop a compensation plan once the LEDPA is determined. We generally agree with these descriptions.

L-068.65

However, it is premature to apply compensatory mitigation ratios and produce compensation requirements, as shown in Tables 4.16-60 through 4.16-65 for the rail and Rapid Bus Alternatives. As explained elsewhere in this Attachment, several issues remain to be addressed regarding the extent and nature of both direct and secondary adverse impacts and, more importantly, the severity



of those impacts. That additional information on adverse impacts will bear directly on not only the appropriate mitigation ratios, but also whether the extent, types and severity of adverse impacts from the alternatives, rail in particular, can be adequately compensated. L-068.65

In that vein, on pages 4.16-107 and 4.16-111, the DEIS notes that, “[t]he majority of all impacts would occur in areas of deciduous wooded swamp wetlands.” In addition, on page 4.16-106, the DEIS notes that, “[d]ue to the scale of this project, and the limited availability of restoration opportunities in eastern Massachusetts, it is likely that [compensatory] mitigation would be characterized as creation.” In light of the cautions we stress above regarding the risks and unproven record regarding wetland creation in general and forest wetland creation in particular, we believe that it will be especially challenging for MassDOT to develop an adequate compensation plan. L-068.66

## VIII. CONCLUSION

In summary, the Region agrees that the Attleboro Alternatives are impracticable and can be dismissed from further consideration. We understand that in the context of the basic project purpose, the Rapid Bus would not perform as well as the rail alternatives and that the Stoughton Alternatives would perform best. Nevertheless, the Rapid Bus, Stoughton, and Whittenton Alternatives all meet the basic project purpose, albeit to varying degrees, and all remain practicable at this time.

Based on the information we have reviewed to date, it appears that the Rapid Bus Alternative would be less environmentally damaging to the aquatic ecosystem than the remaining rail alternatives. We also have requested an assortment of additional information regarding direct and secondary impacts for the Stoughton and Whittenton Alternatives, and the Region is unable to reach conclusions regarding adverse impacts for all the alternatives until we have evaluated that additional information.

With respect to adverse impacts, additional information regarding the presence and extent of aquatic resources is needed, as explained above. Further, again as explained above, additional evaluation of the scope, nature, and severity of direct and secondary adverse impacts needs to occur. Once that additional information is available and reviewed, the Region will be in a position to provide the Corps with its recommendation regarding the LEDPA.

Finally, and after the LEDPA is determined, substantive discussion can take place with respect to developing a comprehensive compensatory mitigation plan.

At this point, the Region has not reached a final conclusion with respect to compliance with the section 404(b)(1) Guidelines, due to the need for the additional information identified herein. L-068.67



# Federal and State Elected Officials

<b>Page</b>	<b>Name</b>
1	State Representative Antonio Cabral
3	State Representative Geraldine Creedon, State Senator Brian Joyce, State Senator Thomas Kennedy and State Representative Angelo D'Emilia
4	State Representative William Galvin, State Senator Brian Joyce, and State Representative Louis Kafka
5	State Senator Brian Joyce
6	State Representative Robert Koczera
8	State Senator Mark Montigny
10	State Representative Shaunna O'Connell
11	State Representative Elizabeth Poirier
12	State Senator Michael Rodrigues
14	State Representative William Straus
16	U.S. Senator John Kerry, U.S. Representatives Barney Frank and James McGovern



**From:** Merante, Mark (HOU) [Mark.Merante@mahouse.gov]  
**Sent:** Friday, May 27, 2011 4:45 PM  
**To:** SCREIS, NAE; O'Shea, Aisling (ENV)  
**Cc:** Antonio Cabral  
**Subject:** South Coast Rail DEIR/DEIS Comments

May 25, 2011

Alan Anacheke-Nasemann  
 Army Corps of Engineers  
 696 Virginia Road  
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 VIA EMAIL: [SCREIS@USACE.army.mil](mailto:SCREIS@USACE.army.mil)

Secretary Richard K. Sullivan, Jr., EOEEA  
 attn.: MEPA Office (Aisling O'Shea)  
 100 Cambridge Street, Suite 900  
 Boston MA 02114  
 VIA EMAIL: [aisling.o'shea@state.ma.us](mailto:aisling.o'shea@state.ma.us)

Re: South Coast Rail Draft Environmental Impact Statement/Draft Environmental Impact Report (DEIS/DEIR)

Dear Sirs:

Thank you for the opportunity to comment on the United States Army Corps of Engineers' South Coast Rail DEIS/DEIR (the "Report"). As you know, this project is enormously important to my city, New Bedford, to all of southeastern Massachusetts and to our entire state's economic future.

As I understand it, the USACE's review of this project under 40 CFR Part 230 Section 404 and 33 CFR Part 320.4(a)(1) involves both an examination of the likely environmental impact of the project and a consideration of the project's purpose and need, described by the Massachusetts Department of Transportation in its application. I will leave to others qualified in environment science to comment on the Report's examination of the likely environmental impact and restrict my comments to the need for and public's interest in this project.

I approve of the Report's examination and agree with its findings. Southeastern Massachusetts has faced enormous challenges in recent years, as the economy in which its businesses and workers had operated rapidly evolved. As a result, New Bedford and Fall River continue to have some of the highest unemployment rates in New England. We retain excellent human and natural resources and local infrastructure but our economic growth has been severely constrained by our poor access to the engines of the new economy, centered in greater Boston. The overwhelming support for this project in the Southcoast and our sense of urgency that the project begin construction as soon as possible is a result of our confidence that we have all of the other necessary resources to achieve rapid economic growth, which would benefit both our region and our state, and to do so in a way that actually reduces our region's impact on the local and global environment.

E-061.01

Therefore, I want to urge you to proceed as quickly as possible to the issuance and adoption of a

E-061.02



Final EIS/EIR. I urge USACE to then move as quickly as possible to issue a Record of Decision and urge MEPA to move as quickly as possible issue a Certificate and Section 61 Finding for the project. As you know, even this initial environmental review process must be followed by further permitting and by the significant design work required for a project of this size and complexity. I cannot emphasize enough the immediate impact on Southeastern Massachusetts and the impact on the economy of our state overall, which the beginning of construction would have.

E-061.02

Thank you again for the opportunity to comment on the Report. If I can be of any assistance as you complete your review, please do not hesitate to ask.

Sincerely,

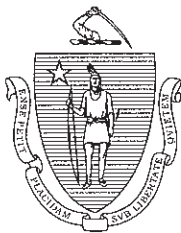


ANTONIO F.D. CABRAL

*State Representative*, 13th Bristol District

Chairman, Committee on Bonding, State Assets and Capital Expenditures





# The Commonwealth of Massachusetts

HOUSE OF REPRESENTATIVES  
STATE HOUSE, BOSTON, MA 02133-1020

**GERALDINE M. CREEDON**  
**REPRESENTATIVE**  
11<sup>TH</sup> PLYMOUTH

STATE HOUSE, ROOM 237  
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Committees:  
House Ways and Means  
Public Service  
State Administration and Regulatory Oversight

April 12, 2011

Alan Anacheke-Nasemann  
U.S. Army Corps of Engineers  
New England District  
696 Virginia Road  
Concord, MA 01742-2751

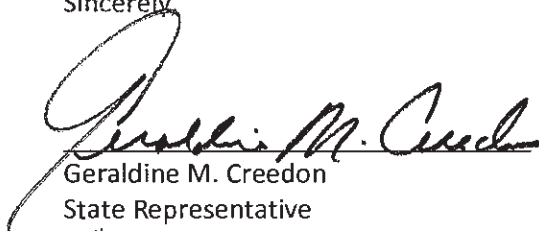
Dear Mr. Anacheke-Nasemann

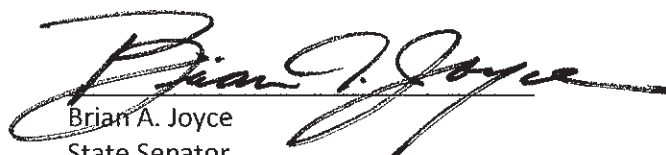
Several concerned constituents have contacted our offices regarding the amount of time allowed for comment on the DEIS (Draft Environmental Impact Statement) for the South Coast Rail project. Due to the complex nature of the recent report, we request that the comment period for this document be extended an additional 60 days. We believe that our constituents should have a fair opportunity to thoroughly review and consider their comments carefully, and the original 60 day timetable does not afford them that possibility. This extension is necessary so that this 2,500 page report may be properly reviewed and commented on by all interested parties.

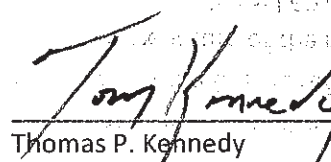
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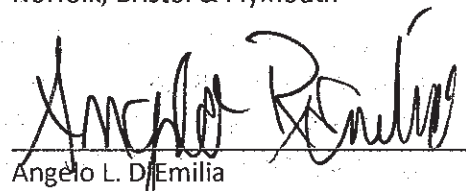
Thank you for your consideration.

Sincerely,

  
Geraldine M. Creedon  
State Representative  
11<sup>th</sup> Plymouth

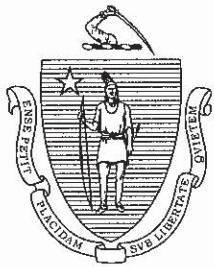
  
Brian A. Joyce  
State Senator  
Norfolk, Bristol & Plymouth

  
Thomas P. Kennedy  
State Senator  
Second Plymouth & Bristol

  
Angelo L. D'Emilia  
State Representative  
8<sup>th</sup> Plymouth

APR 14 11 REG DIV





*The Commonwealth of Massachusetts*  
*House of Representatives*  
*State House, Boston 02133-1054*

**WILLIAM C. GALVIN**  
**STATE REPRESENTATIVE**

6TH NORFOLK DISTRICT  
STATE HOUSE, ROOM 448  
TEL. (617) 722-2582  
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CHAIRMAN

House Committee on Personnel and Administration

Alan Anacheke-Nasemann  
Army Corps of Engineers  
New England District  
696 Virginia Road  
Concord MA 01742-2751

April 5, 2011

Dear Mr. Anacheke-Nasemann:

Due to the complex nature of the recent report your organization released regarding the South Coast Rail, and the fact that it affects so many individuals and communities, we respectfully request that the comment period for this document be extended to 120 days. We feel this extra time is necessary so that this 2,500 page report may be properly reviewed and commented on by those interested in this project. While we acknowledge that the reviewing of these comments by your organization is an essential part of "next steps", we firmly believe that our constituents should have a fair opportunity for review and submittal, and two months is not sufficient to read and comment on such a substantial document.

L-001.01

Sincerely,

*William C. Galvin*  
**William C. Galvin**  
State Representative

*Brian A. Joyce*  
**Brian A. Joyce**  
State Senator

*Louis L. Kafka*  
**Louis L. Kafka**  
State Representative

APR 8 '11 REG DIV

Cc: Kristin Egan, South Coast Rail



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**From:** Pattee, Emma (SEN) [Emma.Pattee@masenate.gov]

**Sent:** Thursday, March 24, 2011 4:56 PM

**To:** SCREIS, NAE

**Subject:** South Coast Rail Hearing

Dear Mr. Anacheke-Nasemann,

I wanted to reach out to you because Senator Joyce has many constituents in his district who are very interested in the South Coast Rail project. Because of that, Senator Joyce was wondering if there was any way to schedule a public hearing in Canton, Easton or Stoughton.

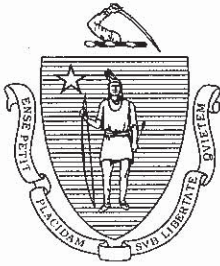
E-004.01

Thank you so much for your assistance,

Emma

Emma L. Pattee  
Communications Director  
Office of Senator Brian A. Joyce  
State House, Room 109-D  
Boston, MA 02133  
T: (617) 722-1643  
F: (617) 722-1522





# *The Commonwealth of Massachusetts*

HOUSE OF REPRESENTATIVES  
STATE HOUSE, BOSTON 02133-1054

## **ROBERT M. KOCZERA**

### **REPRESENTATIVE**

11TH BRISTOL DISTRICT  
119 JARRY STREET  
NEW BEDFORD, MA 02745  
HOME: (508) 998-8041

### **Committees**

Ways and Means

Economic Development and Emerging Technologies

Health Care Financing

Environment, Natural Resources and Agriculture

ROOM 448, STATE HOUSE

TEL. (617) 722-2582

FAX (617) 722-2879

Robert.Koczera@mahouse.gov

May 10, 2011

Mr. Alan Anacheke-Nasemann  
Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2754

Dear Mr. Anacheke-Nasemann:

I am writing to express my strong support for the extension of commuter rail service via the Stoughton route to the cities of New Bedford, Fall River and Taunton.

Based on the following criteria: project purpose; practicability; environmental impact; ridership; travel times, vehicle miles traveled and air quality, the Draft Environmental Impact Report (DEIR) concludes that the Stoughton route provides the best service to the SouthCoast while having the least impact on the environment. Also, the Stoughton route is the most practicable. It is the most direct route to Boston and the less congested of the alternative routes proposed. In addition, the Stoughton route provides the most stops at locations thereby providing more of an opportunity for residents of the region to obtain jobs.

L-021.01

The extension of commuter rail service to the cities indicated above is critical to the economic growth of the southeast region and the Commonwealth. Rail service will enhance regional mobility, support smart growth development strategies in southeast communities, and create greater connectivity between the region and Boston, a cultural and economic hub for New England. Also, rail service to the southeast offers young professionals currently residing in Boston affordable housing opportunities and a reasonable commute that will enhance economic growth in the Commonwealth.

L-021.02

National policies emphasizing energy conservation and alternative sources of energy strengthens the need to provide passenger rail service to the southeast region as an alternative to the congested highways on Routes 24 and 93 leading to Boston. Restoration of commuter rail service along the Stoughton route to Boston provides greater benefits to the environment relative to air quality and traffic congestion as well as significant socioeconomic benefits to the region and state.

L-021.03

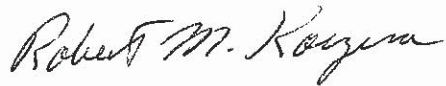
MAY11/11 REG DIV

Anacheka-Nasemann  
May 10, 2011  
Page Two

In conclusion, I urge the U.S. Army Corps of Engineers to expedite the decision making process for the South Coast Rail Project by issuing the Final Environment Impact Statement/Final Environmental Impact Report (FEIS/FEIR) and the Record of Decision (DOR) as soon as possible.

L-021.04

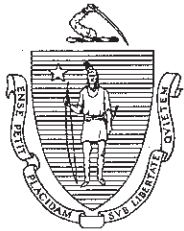
Sincerely yours,



**Robert M. Koczera**  
*State Representative*  
*Eleventh Bristol District*

CC: Secretary Richard K. Sullivan, Jr., EOEEA





COMMONWEALTH OF MASSACHUSETTS  
**THE GENERAL COURT**  
STATE HOUSE, BOSTON 02133-1053

SENATOR MARK MONTIGNY, CHAIRMAN  
SENATE COMMITTEE ON POST AUDIT AND OVERSIGHT  
STATE HOUSE, ROOM 312-A  
TEL (617) 722-1440  
FAX (617) 722-1068

May 24, 2011

Alan Anacheka-Nasemann  
Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Mr. Anacheka-Nasemann,

Thank you for the opportunity to comment on the South Coast Rail Draft Environmental Impact Statement (DEIS). As an elected official, it is my responsibility to advocate for projects that will improve the lives of those I represent, and nothing is more important to those in my district than ensuring the return of commuter rail service to South Coast for the first time since 1958. Since I was first elected, I have worked hard to advocate, advance, and secure funds for this project. The debate has been waged and hearings have been held. Now it is time for action.

Given the amount of time that has lapsed since this project was first conceived, I am deeply concerned about the lack of progress in recent years. It would be my hope that the final Environmental Impact Report be published quickly, identifying the least environmentally damaging practicable route, maximizing the speed and effectiveness of the new line, and allowing construction to begin as soon as possible.

L-044.01

After review of the DEIS, it appears that the Stoughton Alternative and the Whittenton Alternative are the most beneficial to meeting the goal of providing the vital link for commuters from the South Coast and to the City of Boston. Both alternatives cross the abandoned rail road grades through the Hockomock Swamp, so the environmental impacts would be similar. The choice between two alternatives comes down to a decision of which one will provide the fastest and most reliable service to South Station.

L-044.02

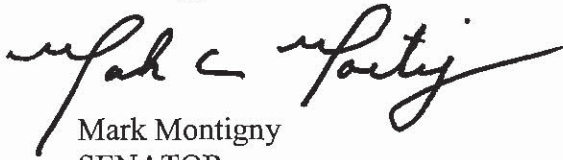
MAY31'11 REG DIV

In many ways this is an economic justice issue. An alternative that adds even a few additional minutes to the commute could make the new rail line that much less appealing to people who might use it as standard mode of transportation. The longer commute time of the Whittenton Variation could be justifiable if there was a clear-cut and significant difference between the environmental impacts of it and Stoughton alternative, but the magnitude of the difference between them is minimal. Therefore, it appears that the Stoughton Alternative is the best choice for the commuters that will utilize the South Coast rail extension.

L-044.03

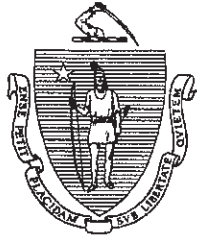
My district, and the South Coast, has too much to offer for this project to be delayed any longer. I thank the Army Corps for its attention and analysis of this project and ask for a final Environmental Impact Statement as soon as possible.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark Montigny', written in a cursive style.

Mark Montigny  
SENATOR





# The Commonwealth of Massachusetts

## House of Representatives

State House, Boston 02133-1054

**Shaunna L. O'Connell**

State Representative

3<sup>rd</sup> Bristol District

Room 237

(617) 722-2305

Shaunna.O'Connell@mahouse.gov

House Ways and Means  
Committee

May 10, 2011

Alan Anacheka-Nasemann  
Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Mr. Anacheka-Nasemann,

As the State Representative for the city of Taunton, I am submitting written testimony on behalf of the city's best interests regarding the proposed South Coast Rail project.

We are pleased that the route preferred by the Mass DOT is the direct Stoughton Route, as this is also the preferred route of the city of Taunton. This is the most direct route from Boston to the communities on the South Coast. It is also the least disruptive route through the city of Taunton, as it only crosses over five streets at grade. L-023.01

We do not support any other route for the proposed South Coast Rail and are adamantly opposed to the so-called "Whittenton route," as this would create 14 street crossings at grade. L-023.02

The crossings on the Whittenton route would be relatively close together in congested areas of the city, creating a disaster with regard to traffic flow. Another grave concern is the inability of public safety vehicles to reach their destinations in an emergency, creating a public safety hazard.

The city has already acquired property on Arlington Street that abuts the site of the proposed downtown station. We understand the state is going to examine our ability to support the train station. It is anticipated that the state would assist the city in making improvements around the Dean Street/Arlington Street intersections. L-023.03

The community is excited to be part of the enhanced rail service to southeastern Massachusetts and looks forward to the many economic benefits the South Coast Rail may bring as we seek to revitalize the economy and communities in this region. L-023.04

The city of Taunton looks forward to working closely with Mass DOT throughout the proposed rail project to ensure the best results for the city and the state.

Sincerely,

*Shaunna O'Connell*

Shaunna O'Connell  
State Representative

MAY11'11 REG DIV

---

**From:** Hyland, Elaine (HOU) [Elaine.Hyland@mahouse.gov]

**Sent:** Thursday, May 26, 2011 1:25 PM

**To:** SCREIS, NAE; O'Shea, Aisling (ENV)

**Cc:** Egan, Kristina (DOT)

**Subject:** South Coast Rail DEIS/DEIR (Rep. Poirier's Office)

Dear Mr. Alan Anacheke-Nasemann and Secretary Richard Sullivan:

Rep. Elizabeth Poirier (14<sup>th</sup> Bristol District) asked that I respond to you on her behalf regarding the comment period for the South Coast Rail DEIS/DEIR.

Rep. Poirier indicated that she is happy with the chosen route through Stoughton. Also, she would like to mention how pleased she is in how thorough Kristina Egan has been in all her efforts regarding this project. | E-053.01

If you have any other questions or need to discuss anything further with Rep. Poirier, you can contact her at 617-722-2100.

Thank you,

*Elaine*

ELAINE M. HYLAND  
Research Analyst  
Rep. Elizabeth A. Poirier  
14th Bristol District  
617-722-2100 x8132





# The Commonwealth of Massachusetts

MASSACHUSETTS STATE SENATE  
STATE HOUSE BOSTON, MA 02133

**SENATOR MICHAEL J. RODRIGUES**

1<sup>st</sup> Bristol & Plymouth District  
Room 213-B, State House  
Tel: (617) 722-1114

[Michael.Rodrigues@masenate.gov](mailto:Michael.Rodrigues@masenate.gov)

**CHAIRMAN:**

Children, Families & Persons with Disabilities

**VICE-CHAIRMAN:**

Labor and Workforce Development

**MEMBER:**

Community Development & Small Business  
Elder Affairs  
Financial Services  
Higher Education  
State Administration & Regulatory Oversight

May 6, 2011

Secretary Richard K. Sullivan, Jr., EOEEA  
Attn.: MEPA Office (Aisling O'Shea)  
100 Cambridge Street, Suite 900 Boston, MA 02114

Alan Anacheke-Nasemann  
Army Corps of Engineers  
696 Virginia Road, Concord, MA 01742-2754

Dear Secretary Sullivan & Mr. Anacheke-Nasemann,

I write to provide comments on the South Coast Rail Draft Environmental Impact Statement/Report. For well over a decade, the potential impact the reintroduction of the passenger rail on the SouthCoast has been studied as part of local, regional and statewide planning efforts, and many potential benefits have been identified. The SouthCoast is very unique in that it is one of the fastest growing areas within the Commonwealth. This area has tremendous potential to grow enormously in economic development. Improved transportation access could be a vehicle for this growth, development, and job creation.

E-025.01

The cities of Fall River and New Bedford are some of the largest municipalities within a fifty mile radius of Boston without rail transit service. This rail service would provide a much needed link between job opportunities and affordable housing for the residents of the Commonwealth. The current highway network connecting the SouthCoast to the Boston area is inadequate for the needs of today, causing extensive traffic congestion, significant safety concerns and negatively effecting air quality, with expectations for even greater congestion in the future. The SouthCoast rail extension could help to mitigate some of this traffic growth in the region. The rail would strengthen the SouthCoast's economic links to the Greater Boston area and other satellite urban centers within the metro region. Furthermore, the rail access expands the SouthCoast's potential labor market and is particularly attractive to high-end management and professional employees.

E-025.02

In the past, commuter rail access has been a key factor in major development and redevelopment projects across the nation, and has consistently lead to increased property values in areas surrounding the train stations both nationally and internationally.

Essentially, the commuter rail could aid the growing tourism industry in the SouthCoast by providing visitors to the state with another means of transportation to experience the SouthCoast's many natural resources, cultural institutions and other amenities.

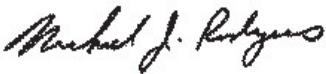
E-025.03

I strongly support the Commuter rail expanding to the SouthCoast. The local SouthCoast delegation has been coordinating with the State for over three years on the development of the Draft Environmental Impact Statement and the project itself. I urge the Army Corps and its partners to complete the review and make the determination of the Least Environmentally Damaging Practicable Alternative (LEDPA) as quickly as possible. This project is extremely important to our region. My constituents have been waiting for the restoration of this rail service for over two decades and are anxious for this process to be completed so that we may move onto the next critical stage of the project.

E-025.04

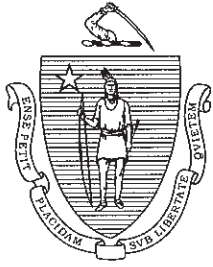
Thank you. I appreciate your consideration of my views regarding this project.

Sincerely,

A handwritten signature in black ink, reading "Michael J. Rodrigues". The signature is written in a cursive, flowing style.

Michael J. Rodrigues  
State Senator





*The Commonwealth of Massachusetts*  
*House of Representatives*  
*State House, Boston 02133-1054*

WILLIAM M. STRAUS  
REPRESENTATIVE  
10TH BRISTOL DISTRICT  
ROOM 134  
TEL: (617) 722-2400

COMMITTEE  
Chairman  
Transportation

DISTRICT OFFICE  
Tel: (508) 992-1260  
William.Straus@MAhouse.gov

Alan Anacheke-Nasemann  
Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

May 23, 2011

Dear Mr. Anacheke-Nasemann:

As the House Chairman of the Joint Committee on Transportation and as State Representative for the 10<sup>th</sup> Bristol District, which encompasses the towns of Fairhaven, Marion, Mattapoisett, and Rochester, I am writing to express my strong support for the proposed South Coast Rail project and the South Coast Rail Project's recommendation to build the so-called Stoughton alternative.

L-041.01

The South Coast Rail will provide enormous benefit to those individuals within my district and the surrounding area, as it will present a long-awaited, viable public transit service to Boston for a region and a population that currently lacks access to practical public transit options. In addition, the South Coast Rail will provide a much-needed boost to the local economy by promoting complementary development projects along the route.

L-041.02

The Stoughton alternative recommendation is based on extended research and a variety of calculated assessments, including cost considerations, travel times, environmental impact concerns, and potential ridership numbers along each of the proposed routes. Members of the Joint Committee on Transportation were briefed on the South Coast Rail project March 21, 2011 and the determination by the South Coast Rail Project and the Massachusetts Department of Transportation (MassDOT) that the Stoughton alternative was the preferred option. The Stoughton alternative decision was clearly outlined at the time of the briefing and continues to remain, in my opinion, the preferred option.

L-041.03

I am aware of the recent public hearings, including those in Easton and Mansfield, where the public has voiced concerns about the potential negative impact of the Stoughton alternative on their neighborhoods. Although I appreciate and understand these concerns, I remain convinced that the Stoughton alternative is the solution that presents the fewest negative impacts on the surrounding

L-041.04

MAY26'11 REG DIV

environment, and constitutes a return of a mass transit to a corridor and landscape where it existed for decades. L-041.04

Thank you in advance for your consideration of my comments. I would be happy to discuss this further and in greater detail should you be interested. Additionally, if you have any questions, please do not hesitate to contact me at (617) 722-2400.

Respectfully,

A handwritten signature in black ink that reads "Bill Straus". The signature is written in a cursive, flowing style with a long horizontal stroke at the end.

William M. Straus  
State Representative



# Congress of the United States

Washington, DC 20515

May 26, 2011

Mr. Alan Anacheke-Nasemann  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Secretary Richard K. Sullivan, Jr.,  
Executive Office of Energy and Environmental Affairs  
attn.: MEPA Office (Aisling O'Shea)  
100 Cambridge Street, Suite 900  
Boston MA 02114

Dear Mr. Anacheke-Nasemann & Secretary Sullivan,

We write to urge the U.S. Army Corps of Engineers to endorse the Massachusetts Department of Transportation's (MassDOT) preference of the Stoughton direct route as the Least Environmentally Damaging Practicable Alternative (LEDPA). To facilitate efficient use of government resources and to expedite the environmental review process, we also request that the Corps consult with the Massachusetts Environmental Policy Act (MEPA) office to establish a scope of work for the Final Environmental Impact Statement/Report (FEIS/FEIR) that identifies one route – the Stoughton alternative – for further study. We believe this document should address reasonable outstanding issues raised by the public and/or reviewing agencies during the current comment period.

L-086.01

We also ask that the Corps not extend the comment period beyond the two months provided, ending May 27. MassDOT has conducted a wide-ranging and thorough civic engagement process, involving all of the state and federal environmental regulatory agencies in a four-year process. In addition, MassDOT posted technical reports that form the basis for the report in 2009, and all of the data collection and associated methodologies have been available for agency and public review for over a year.

L-086.02

As the environmental process moves into the next phase - the development of the Final Environmental Impact Report and Statement - we urge the Corps to prepare this document within a year. We also request that, after MEPA issues a Certificate, the Corps publish a schedule for completing the FEIS, selecting the LEDPA, and issuing the Record of Decision. We understand that the schedule is partially dependent on

L-086.03

Mr. Alan Anacheke-Nasemann  
The Honorable Richard K. Sullivan, Jr.  
May 26, 2011  
Page 2

MassDOT providing necessary data, so we ask that the Corps coordinate with MassDOT in the development and publication of the schedule.

L-086.03

Since the announcement of commuter rail expansion to the South Coast, we have wholeheartedly supported this exciting opportunity to restore passenger rail service to Fall River, New Bedford, and Taunton. These are the only three cities within 50 miles of Boston that are not served by commuter rail stations. In restoring this service, the Commonwealth would be catalyzing nearly half a billion dollars in economic development every year.

L-086.04

With the construction of the proposed Whales's Tooth station in New Bedford, the project will revitalize New Bedford's waterfront through the construction of a multi-modal green station using renewable energy technologies. It will connect area buses, ferry service, future passenger rail, and house a "one-stop" career center, while building a signature pedestrian and bicycle bridge that will be a New Bedford landmark and connect neighborhoods to the waterfront. Likewise, the proposed stations in Fall River will open under-utilized land along the waterfront for development and will stimulate a local economy that has been hard hit in recent times.

L-086.05

In addition, the South Coast Rail project will create new jobs and infuse new life into our older, struggling industrial cities. Residents of southeastern Massachusetts will be able to access new jobs and services in the Boston area – jobs and services that many low-income residents cannot currently access. Boston-area residents, in turn, will be able to more easily take advantage of affordable housing along the South Coast.

L-086.06

Of the options under consideration, we believe that the Stoughton alternative offers the best balance of transportation benefits, economic development, and environmental impacts. As the Draft Environmental Impact Statement shows, the Stoughton route meets the project purpose with the least environmental damage. Rail trip time is significantly shorter than Rapid Bus, and a direct Stoughton route is the fastest option. As you know, trip time for passengers is a critical consideration in determining the best alternative. The shorter travel time will attract more riders and take more vehicles off the roads, improving regional mobility. The success of the South Coast Rail initiative will indeed depend on attracting and sustaining new rail passengers who are looking for a quicker transit alternative to travel to the metropolitan Boston area.

L-086.07

In that regard, we also believe that the Stoughton Electric Alternative is the best option available. At the same time that we are committing ourselves to investing in the next great transportation project in Massachusetts, we should also be investing in an energy source that is sustainable into the future. With electric trains, we are giving the rail line the flexibility to switch to an alternative source of energy that may present itself down the

L-086.08



Mr. Alan Anacheke-Nasemann  
The Honorable Richard K. Sullivan, Jr.  
May 26, 2011  
Page 3

road, including wind and solar. The Electric Alternatives travel times are noticeably shorter than their diesel counterparts, which again will attract and sustain new passengers along the rail corridor. At a time when we are looking to curb our carbon footprint wherever possible, we should not ignore this opportunity to cut emissions. At the same time, we urge the Corps to allow for the diesel alternative to be built first with a commitment from the state to convert the line to electric as resources allow.

L-086.08

Given the cost difference between diesel and electric, a phased approach may be the most practical. With respect to the natural environment in the project area, the Stoughton alternatives have less impact on wetlands than the Rapid Bus and Attleboro options. Of the impacts, 1.8 of Hockomock Swamp acres are considered an "Area of Critical Environmental Concern," and consist primarily of lost wetlands that have formed on the former rail bed.

L-086.09

The project includes relocating a stream currently on the rail bed back to its natural channel, which will create ecological benefits. Moreover, the Commonwealth has committed to constructing an elevated trestle through the swamp, which will facilitate the movement of animals across the rail alignment. While there are potential impacts to threatened and endangered species, we believe that, in coordination with regulatory agencies, the project can and will take the utmost care to avoid and mitigate these impacts. We also suggest that mitigation for biodiversity impacts be included for development in the FEIS/FEIR.

L-086.10

The Attleboro route fails operationally, so it is not practicable. It also has a higher cost per rider. Fixing these problems would involve adding a third and fourth track to parts of the heavily-travelled Northeast Corridor. Adding these tracks would amount to more than double the cost of the Stoughton direct alternative. We do not feel that this would be a wise use of federal or state dollars.

L-086.11

The Whittenton alternative, while superior to the Rapid Bus and the Attleboro rail alternatives, does not appropriately serve the people of New Bedford and Fall River. For example, these residents would experience a longer trip time (by over 10 minutes each way). This longer commute time might arguably be justifiable if there were significant differences between the environmental impacts of the Whittenton and Stoughton alternatives. But there are not any significant differences. Moreover, the Stoughton alternative provides greater air quality and climate benefits.

L-086.12

In determining the alternative to study in the FEIS/FEIR, we urge the Corps and MEPA to take a holistic approach when weighing the alternatives against one another. We are confident that the Stoughton alternative is the best one.

L-086.13

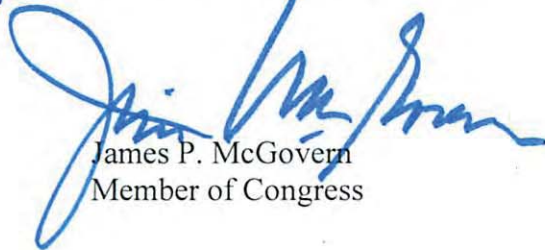
Mr. Alan Anacheke-Nasemann  
The Honorable Richard K. Sullivan, Jr.  
May 26, 2011  
Page 4

We appreciate the extraordinary work that the Corps has done to date, and we look forward to your response.

Sincerely,



John F. Kerry  
United States Senator



James P. McGovern  
Member of Congress



Barney Frank  
Member of Congress



# Massachusetts Environmental Policy Act Office

Page	Name
1	Massachusetts Environmental Policy Act Office



*The Commonwealth of Massachusetts*  
*Executive Office of Energy and Environmental Affairs*  
*100 Cambridge Street, Suite 900*  
*Boston, MA 02114*

Deval L. Patrick  
GOVERNOR

Timothy P. Murray  
LIEUTENANT GOVERNOR

Richard K. Sullivan Jr.  
SECRETARY

Tel: (617) 626-1000  
Fax: (617) 626-1181  
<http://www.mass.gov/envir>

June 29, 2011

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS  
ON THE  
DRAFT ENVIRONMENTAL IMPACT REPORT/STATEMENT

PROJECT NAME	: South Coast Rail Project
PROJECT MUNICIPALITY	: South Coast Region
PROJECT WATERSHED	: Buzzards Bay, Taunton River, Narragansett Bay, Mount Hope Bay, Neponset River, Ten Mile River, Boston Harbor, Charles River
EEA NUMBER	: 14346
PROJECT PROPONENT	: Massachusetts Department of Transportation
DATE NOTICED IN MONITOR	: March 23, 2011

Pursuant to the Massachusetts Environmental Policy Act (G. L. c. 30, ss. 61-62I) and Section 11.07 of the MEPA regulations (301 CMR 11.00), I hereby determine that the Draft Environmental Impact Report/Statement (DEIR/S) submitted for this project **adequately and properly complies with MEPA**. The Proponent, the Massachusetts Department of Transportation (MassDOT) should submit a Final Environmental Impact Report (FEIR) in accordance with the Scope below. As was the case with the DEIR/S, MassDOT may adopt the Final Environmental Impact Statement (FEIS), which is being prepared by the U.S. Army Corps of Engineers, as its FEIR and submit a combined Final EIR/EIS for MEPA review, as long as the FEIS meets the Scope below.

The South Coast Rail project involves development of a public transit system to connect the cities of Fall River and New Bedford to Boston and to create regional transit interconnections among the south coast communities. Fall River and New Bedford are historically underserved areas with respect to public transportation options. This project is a priority transportation initiative of the Patrick Administration and is a component of MassDOT's efforts to increase transit access throughout the Commonwealth. In conjunction with the rail project, MassDOT together with the communities and regional planning agencies, have developed the South Coast



Rail Economic Development and Land Use Corridor Plan. This Corridor Plan aims to manage both the projected growth in the region under business as usual conditions and the induced growth associated with this project according to sustainable development principles.

As set forth in further detail herein, MassDOT has submitted a DEIR/S that comprehensively evaluates the relative benefits and impacts of this large-scale transportation infrastructure project. Amongst the project's benefits are improved access to transit and the corresponding traffic, safety, air quality, and greenhouse gas reduction benefits associated with increased use of public transit. The project also has significant potential to facilitate sustainable land use and development patterns and will service environmental justice communities. The proposed route does however involve substantial environmental impacts associated with alteration of wetlands and elimination or fragmentation of habitat (including rare species habitat and loss of biodiversity) as well as induced secondary growth and noise-related impacts, that will need to be evaluated closely in order to minimize impacts and to mitigate unavoidable impacts.

The purpose of the DEIR for any project is to provide sufficient information to allow the selection of a preferred alternative that will avoid, minimize and mitigate environmental impacts to the maximum extent feasible as required under MEPA. I have received numerous comments from public officials, state agencies, environmental advocates, local residents, and other members of the public concerning the selection of a preferred alternative that avoids impacts to the greatest degree. I thank the many parties who have provided comments on the DEIR/S and the many agencies that have participated in its development. In the case of this project, selecting a preferred alternative is a challenging task given the many trade-offs that must be made among legitimate environmental concerns and the balancing that must accompany evaluation of sometimes competing environmental goals and impacts. What must be accomplished through the MEPA process is a thorough vetting of the relative impacts and benefits of alternatives that will allow, MassDOT as the project proponent, and the state permitting agencies to make an informed decision about which alternative strikes the most appropriate balance in view of MEPA's statutory directives.

Based on the record before me, and as set forth in greater detail in the following sections of this Certificate, I am satisfied that MassDOT has made the case for the Stoughton route to be brought forward as the preferred alternative in the FEIR. However, there is significant additional work that must be completed in the FEIR to allow the project to complete review under MEPA. The Scope set forth below outlines the outstanding issues that must be addressed, including the development of specific and detailed mitigation plans for unavoidable impacts.

MassDOT did not identify a preferred mode among the diesel and electric alternatives. However, because the electric option is preferable from an air quality perspective, the Stoughton Electric should be the focus of the FEIR.

### Background

MassDOT has defined the project purpose as to "more fully meet the existing and future demand for public transportation between Fall River/New Bedford and Boston, MA, and to enhance regional mobility, while supporting smart growth planning and development strategies



in the affected communities". The U.S. Army Corps of Engineers (Corps) uses a more narrow definition of project purpose, which does not include the smart growth aspect. The Corps overall project purpose is defined in the DEIR/S as "to more fully meet the existing and future need for public transportation between Fall River/New Bedford and Boston Massachusetts, and to enhance regional mobility". I believe the Corridor Plan component of the project has tremendous potential to influence development patterns in the South Coast region in a way that supports smart growth and environmental protection. This is a critical factor to consider in the context of MEPA review.

The proposed sixty-mile transit route follows existing freight lines from New Bedford/Fall River to Taunton, and involves construction of new tracks in the Pine Swamp in the Town of Raynham and the Hockomock Swamp in the Towns of Easton and Raynham. New track construction is proposed along an inactive Right-of-Way in the Pine Swamp and Hockomock Swamp that has been discontinued from rail use since 1958. The project has the potential to increase transit accessibility and ridership, improve regional air quality, and support opportunities for smart growth and sustainable development in the South Coast region, which includes thirty-one cities and towns. At the same time, the project has the potential to result in considerable impacts to natural resources and wildlife habitat of significant ecological value. Selection of a preferred alternative that balances the relative environmental benefits and negative impacts of this large-scale regional initiative is therefore a fundamental objective of this environmental review process.

In selecting among alternatives for this project, MassDOT has considered air quality, climate change, transit access, and public safety as well as wetland, rare species and biodiversity impacts in a DEIR to find a balanced preferred alternative. This balancing act is difficult given the myriad of sometimes competing concerns and will continue in the FEIR and the permitting process. The availability of convenient and reliable public transportation options is a crucial component of the Commonwealth's strategy for reducing greenhouse gas emissions and tackling the problem of global climate change. In addition, expanding transit options for commuters can help reduce congestion on roadways and thereby improve public safety, and provide other socio-economic benefits to Environmental Justice communities. However, the potential for significant environmental degradation and loss of habitat, as well as the national and regional significance of some areas that are at the heart of this environmental study, make it equally important that we give serious consideration to these issues during the environmental review and permitting process. The prospect of climate change further highlights the need for other adaptation strategies, which include protection of our most vulnerable and sensitive ecosystems.

An informed and objective alternatives analysis is at the heart of the MEPA process. Only in this way can a state agency meet its statutory obligations to take all feasible measures to avoid, minimize or mitigate damage to the environment. Numerous routing and mode options were evaluated in the Environmental Notification Form (ENF) for the project and then narrowed down to eight alternatives to be further evaluated in the DEIR. The alternatives evaluated in the DEIR/S include electric and diesel options for three rail routes; Attleboro, Stoughton, and Whittenton (a variant of the Stoughton route), as well as a Rapid Bus route, and a No-Build/Enhanced Bus scenario.



The DEIR/S presents a thorough and detailed comparison of the relative environmental impacts and benefits of the various alternatives, and identifies the Stoughton route as the preferred alternative. After thoroughly reviewing the DEIR/S and the comments received, I am satisfied that MassDOT has provided sufficient information for the purposes of MEPA review to demonstrate that the Attleboro alternative is not operationally feasible, and that both the Whittenton and Rapid Bus alternatives are less effective compared to the Stoughton alternative in meeting the project purpose. The analysis also demonstrates that the Rapid Bus alternative is not practicable because the Zipper lane on I-93 would fail by 2030 to provide a travel time benefit over auto use. Future traffic congestion would result in longer travel times from the South Coast Region to Boston resulting in lower bus ridership, increased vehicle miles traveled, and negative effects on air quality. Compared to the Stoughton route, the Whittenton alternative draws less ridership from the focus areas of Fall River and New Bedford. In addition, the Whittenton variation would result in disproportionate noise impacts to Environmental Justice communities in Taunton as well as public safety concerns due to the number of at-grade crossings required.

Therefore, on balance, I am satisfied that MassDOT has made the case for the Stoughton route to be brought forward as the preferred alternative in the FEIR, and I concur with many commenters who have indicated that from an air quality perspective, the electric option is preferable to diesel. The diesel alternative should be eliminated from further review and MassDOT should focus on the Stoughton Electric as the preferred feasible alternative for further analysis in the FEIR. However, I note that the Corps has not yet made its determination of the Least Environmentally Damaging Practicable Alternative (LEDPA) for the project. If the Corps selects a LEDPA other than the Stoughton Electric alternative, MassDOT should submit a Notice of Project Change (NPC) so that a revised Scope can be issued as appropriate for preparation of the FEIR and the continued coordination of state and federal environmental review.

### Project Description

As noted above, the purpose of the project as proposed by MassDOT is to more fully meet the existing and future demand for public transportation between Fall River/New Bedford and Boston, and to enhance regional mobility, while supporting smart growth planning and development strategies in affected communities.

The proposed Stoughton Electric rail will provide commuter service to South Station using the Northeast Corridor, Stoughton Line, New Bedford Main Line, and Fall River Secondary Line. The New Bedford to Boston route is 54.9 miles long and the Fall River to Boston route is 52.4 miles long. The project requires upgrades to track infrastructure along the existing Stoughton line including reconstruction of tracks from Canton Junction to Stoughton, construction of new tracks from Stoughton to Winter Street in Taunton, for a distance of 15 miles, on an abandoned right-of-way which crosses through the Hockomock Swamp and the Pine Swamp. Reconstruction of tracks is also proposed from Winter Street in Taunton to Weir Junction, a distance of 1.7 miles. The project requires reconstruction of tracks in the Southern Triangle, which includes the New Bedford Main Line and the Fall River Secondary. Infrastructure improvements associated with the project include constructing, reconstructing, or widening 45 bridges, and constructing or reconstructing 46 railroad at-grade crossings.



The project includes ten new rail stations: North Easton, Easton Village, Raynham Place, Taunton, Taunton Depot, King's Highway, Whale's Tooth, Freetown, Fall River Depot, and Battleship Cove. Major reconstruction is also proposed at two existing commuter rail stations, Canton Center and Stoughton. The project will require two overnight layover facilities, one on the New Bedford Main Line and one on the Fall River Secondary. Five alternative layover sites are described in the DEIR/S. MassDOT is also proposing an expansion of South Station as well as mid-day layover facilities in Boston to address existing and future Massachusetts Bay Transit Authority (MBTA) and Amtrak capacity needs that are independent of the South Coast Rail project. The facility expansion in Boston will support the project's infrastructure requirements but it is part of the baseline/No-Build scenario, is not analyzed as part of the DEIR/S, and will undergo environmental review at a future date. The traction power system for the Stoughton Electric rail will include a substation in Easton and one in New Bedford, two switching stations (one in Canton and another in Berkeley), and six paralleling stations (Easton, Taunton, New Bedford, Fall River, and two in Freetown).

Construction and operation of the Stoughton Electric will result in alteration of approximately 250 acres of land, direct permanent impacts to approximately 12 acres of wetlands (Bordering Vegetated Wetlands (BVW) and Outstanding Resource Waters (ORW)), alteration of approximately 32 acres of mapped habitat for state-listed species, habitat fragmentation and migratory barrier impacts, and other secondary and cumulative impacts to wildlife, biodiversity, and open space. The proposed project will result in significant impacts to natural resources and wildlife habitat that must be adequately mitigated in order to satisfy MEPA requirements and other regulatory requirements for state permitting. The habitat areas impacted by the project include the Hockomock Swamp ACEC, which is one of the largest unfragmented wetland systems in the state, and the Pine Swamp conservation area in Raynham. Development of a robust and detailed mitigation plan for unavoidable impacts is a core requirement of the FEIR.

The project has the potential to improve regional air quality and reduce greenhouse gas (GHG) emissions by increasing the number of people using public transit, thereby reducing automobile use and GHG and pollutant emissions associated with vehicle miles travelled (VMT). The smart growth aspect of the project, as described in the DEIR/S and the South Coast Rail Economic Development and Land Use Corridor Plan has the potential to substantially reduce the amount of land consumption and related impacts that might otherwise occur if existing development patterns continue. By concentrating development in Priority Development Areas (PDAs) and protecting habitat of high ecological value in Priority Protection Areas (PPAs), MassDOT's smart growth plans could reduce by up to 50 percent the amount of habitat degradation projected to occur in the region by 2030. Another core requirement of the FEIR Scope relates to further refinement and specificity of MassDOT's commitments to the South Coast Rail Economic Development and Land Use Corridor Plan through land acquisition and other smart growth measures as part of a comprehensive mitigation plan for the project's direct and indirect impacts to the Commonwealth's natural resources and wildlife habitat.

#### Interagency and Community Involvement

The South Coast Rail project was previously reviewed under MEPA from 1995 to 2002. However, federal environmental review under the National Environmental Policy Act (NEPA)



was not undertaken at that time. As a result, the project is now undergoing a joint environmental review process, which includes a comprehensive alternatives analysis under both the state and federal review procedures. The alternatives analysis provides information on the project's environmental impacts that will inform both the federal and state permitting processes. I fully support the ongoing state-federal coordination process to facilitate agency and public review under MEPA and NEPA, and commend MassDOT for undertaking such a robust and coordinated public review process.

MassDOT has also conducted an extensive stakeholder involvement process that includes an Interagency Coordinating Group, the Southeastern Massachusetts Commuter Rail Task Force, and a broad civic engagement process. I would like to thank the Commuter Rail Task Force, the Interagency Coordinating Group, as well as members of the public for their input to date and I appreciate the ongoing participation of all stakeholders during the environmental review of this project. I hope and expect that MassDOT will continue its commitment to stakeholder outreach and public input as it prepares the FEIR for this project.

#### Permitting and MEPA Jurisdiction

The MEPA process provides a valuable forum for the collection and review of environmental documents and comments on a project thereby reflecting various points of view. However, reconciling all of the identified (and sometimes competing) concerns and identifying a preferred alternative that achieves consensus support among all interested parties, is beyond the scope of MEPA. MEPA review, which is conducted in response to the filing of environmental review documents by the Proponent, is intended to facilitate environmental planning for Projects requiring Agency Action. MEPA review is not a permitting process. MEPA requires public study, disclosure, and development of feasible mitigation for a proposed project. It does not pass judgment on whether a project is environmentally beneficial, or whether a project can or should receive a particular permit. Those decisions are left to the permitting agencies. MEPA review occurs before permitting agencies act, to ensure that the permitting agencies know the environmental consequences of a project. No state agency can issue permits needed for the project until MEPA review is complete.

The proposed project is subject to MEPA review because it is being undertaken by a state agency and because it meets or exceeds the review thresholds set forth in the MEPA regulations, including thresholds for a mandatory EIR. The project is undergoing environmental review pursuant to the following sections of the MEPA regulations: Section 11.03(a)(1)(5) because it involves construction of a new rail or rapid transit line along a new, unused or abandoned right-of-way; Section 11.03(3)(a)(1)(a) because it will result in alteration of more than one acre of Bordering Vegetated Wetlands (BVW); Section 11.02(a)(2) because it involves alteration requiring a variance in accordance with the Wetlands Protection Act; Section 11.03(1)(a)(1) and (2) because it will result in alteration of 50 or more acres of land and creation of 10 or more acres of new impervious area; Section 11.03(11)(b) because it is located within a designated Area of Critical Environmental Concern (ACEC); Section 11.03(b)(3) because it involves conversion of land held for natural resource purposes in accordance with Article 97 of the Amendments to the Constitution of the Commonwealth; Section 11.03(2)(b)(2) because it would result in more than two acres of disturbance of designated priority habitat that results in a take of



a state-listed species; and Section 11.03(10)(b)(1) and (2) because it may result in demolition of a part of a state-listed historic structure or destruction of a state-listed archaeological site. The project may also meet or exceed other MEPA review thresholds depending upon its final design.

The project requires a 401 Water Quality Certification, a Chapter 91 License, and a Variance from the Wetlands Protection Act (WPA) from the Massachusetts Department of Environmental Protection (MassDEP). The project also requires local Orders of Conditions under the WPA (and, on appeal only, Superseding Order(s) from MassDEP). Other permits or approvals required for the project include a Conservation and Management Permit from the Division of Fisheries and Wildlife, Natural Heritage and Endangered Species Program (NHESP), a land disposition agreement with the Department of Conservation and Recreation (DCR) as well as approval from the legislature and the Division of Capital Asset Management (DCAM) for a disposition of land protected by Article 97 of the Amendments to the Constitution of the Commonwealth. The project is subject to the MEPA Greenhouse Gas Emissions Policy and Protocol. The project is subject to review by the Massachusetts Historical Commission and the Office of Coastal Zone Management. At the Federal level, the project requires a Section 404 permit from the U.S. Army Corps of Engineers, an Air Quality Conformance Determination, a National Pollutant Discharge Elimination System (NPDES) Construction Permit, and is subject to review under Section 106 of the National Historic Preservation Act.

Because the proposed project is being undertaken by a state agency MEPA jurisdiction is broad and extends to all aspects of the project that are likely, directly or indirectly, to cause Damage to the Environment as defined in the MEPA regulations.

## REVIEW OF THE DEIR/S

### Alternatives

The DEIR/S evaluates the relative ability of alternatives to meet the project purpose in a cost-effective manner. Criteria considered in the evaluation include quality of service, constructability, schedule, costs, and smart growth opportunities. The Certificate on the ENF required MassDOT to evaluate alternatives that include electric and diesel options for three rail routes: Attleboro, Stoughton, and Whittenton (a variant of the Stoughton route), a Rapid Bus route, and a No-Build/Enhanced Bus scenario.

### *Attleboro*

The Attleboro alternative is not feasible and the rationale for eliminating this as an alternative moving forward has been described in detail in the DEIR/S. MassDOT conducted a thorough analysis of the operational feasibility for the Attleboro Route under several scenarios including the elimination of all constraints at South Station and construction of a fourth track from Readville to South Station. The fourth track is excessively costly and disruptive, would require re-routing of the MBTA Orange Line, and would result in substantial impacts to the Southwest Corridor Park in Jamaica Plain and environmental justice communities in this area. The



Attleboro alternative cannot be modeled without a fourth track as it fails in peak hour periods causing disruption and delays to other commuter rail lines.

### *Stoughton*

The Stoughton route is MassDOT's preferred alternative. It meets the project purpose in terms of travel time (76 minutes) and the time for construction (4.5 years), and performs better than other alternatives in terms of ridership and reductions in Vehicle Miles Travelled (VMT). The DEIR/S indicates a more effective cost-per-rider for the Stoughton route compared with other alternatives. However, mitigation costs have yet to be fully evaluated.

### *Whittenton*

The Whittenton Alternative is a variation of the Stoughton route that includes a diversion to avoid the Pine Swamp. Although the Whittenton Electric gets slightly higher ridership overall, the Stoughton Route captures more riders from the New Bedford and Fall River areas, which are the focus of this new public transit service, and shows a greater increase in shift of commuters from auto to transit. This is because of its faster travel time to Boston. Although the Whittenton Electric performs well in terms of ridership projections, its longer route to avoid Pine Swamp adds approximately 11 minutes to the journey from the South Coast to Boston. Compared to the Stoughton Alternative, the Whittenton Alternative is projected to pick up more riders from Taunton but less from New Bedford and Fall River. The cost per rider and smart growth opportunities are similar to the Stoughton alternative, as is the construction timetable.

### *Rapid Bus*

The cost of the Rapid Bus alternative is substantially lower than the rail alternatives (\$0.8 billion compared to \$1.8 billion for the Stoughton Electric) and it performs well in terms of construction timeline and less significant impacts to natural resources and biodiversity when compared with the rail alternatives. However, the Rapid Bus does not perform as well as the rail alternatives in terms of travel time, with the exception of Whittenton Diesel, which has a similar travel time. Since the Environmental Notification Form (ENF) review, the travel time projections for the Rapid Bus were updated to account for projected increases in traffic congestion in 2030. In comparison with the Stoughton Electric, which takes 76 minutes from New Bedford to South Station, the Rapid Bus travel time is 27 minutes longer (103 minutes). The longer travel time from the south coast communities to Boston has a significant influence on ridership. The ridership model indicates that Rapid Bus would generate 1,700 new linked boardings, representing the number of commuters shifting from automobiles to transit, compared with 5,900 for the Stoughton Electric. Because the ridership is lower for Rapid Bus, VMT and related air pollutants are not reduced to the same extent as they are under the Stoughton Alternative. In addition, the analysis in the DEIR/S indicates that the existing zipper lane along I-93 will no longer provide a travel advantage for the Rapid Bus under 2030 conditions. Buses are expected to travel slower in more congested conditions thereby adding to existing air quality problems. Alternative operating plans were considered to evaluate how performance might be improved under different policy assumptions (for example, a three-person minimum versus a two-person occupancy restriction in zipper lanes). In a Memo dated June 24, 2011, MassDOT indicates that



extension of the High Occupancy Vehicle (HOV) lane was also evaluated as part of the Central Artery Tunnel project. An HOV extension could potentially improve Rapid Bus performance by providing a continuous zipper lane to South Station, thereby addressing delays encountered in the two-mile section of I-93 where the Rapid Bus travels in mixed traffic. However, the evaluation showed that constraints at Savin Hill would require substantial infrastructure improvements, disruption to existing rail lines, and residential takings on the Savin Hill embankment. Based on MassDOT's analysis, it is not feasible to substantially improve performance of the Rapid Bus for the 2030 Build condition.

#### *No Build-Enhanced Bus*

The No Build Alternative represents a continued investment in the regional transportation network, but does not address the fundamental need for improved public transit service between New Bedford/Fall River and Boston. Under this alternative, no new rail or bus service would be provided to Southeastern Massachusetts. Enhancements are proposed for existing bus services and this alternative includes the expansion of South Station, the construction of mid-day layover facilities in the Boston area and the reconstruction of railroad bridges in the New Bedford area. Ridership projections are significantly lower for this alternative compared to the rail or Rapid Bus alternatives. The No-Build/Enhanced Bus alternative is expected to achieve only 400 new linked trips daily. Although it does not generate the environmental impacts associated with other alternatives, this no-build does not serve the project purpose. It is however useful as a baseline for comparison of alternatives under 2030 conditions.

#### *Comparison of Impacts*

The DEIR/S includes a comprehensive comparative analysis of the environmental impacts of project alternatives, including impacts to air quality, wetlands, upland habitat, rare species, Article 97 protected land, and biodiversity.

*Air quality:* The rail alternatives provide more air quality benefits compared to the Rapid Bus because they attract more riders and thereby result in a greater reduction in VMT per day. From a regional perspective however, the differences among the alternatives is minimal in terms of their air quality benefits. The Stoughton Electric route achieves an approximately 295,922 reduction in VMT per day compared to 228,018 for Whittenton Electric and 81,495 for the Rapid Bus (diesel option, a hybrid bus alternative was not evaluated). The diesel alternatives for rail show substantially higher VMT reductions when compared with the diesel Rapid Bus (228,705 VMT reduction for Stoughton and 173,961 VMT per day for Whittenton diesel).

*Wetlands:* Both Attleboro rail and the Rapid Bus result in the largest amount of acres of direct wetlands impact (approximately 21 acres compared to 11.94 acres and 10.34 acres respectively for Stoughton and Whittenton). However, the quality of wetland resource is an important consideration in assessing impacts. For example, the Stoughton and Whittenton alternatives have more significant impacts to the functions and value of higher quality interior wetlands compared with the primarily edge impacts of the Rapid Bus route. In addition, both the Stoughton and Whittenton routes impact a greater acreage of vernal pool supporting habitat. Vernal Pools are a major contributor to biodiversity.



*Upland Habitat:* the DEIR/S estimates that direct loss of upland habitat associated with Stoughton Electric is 183.27 acres, which includes 55.4 acres of supporting habitat for vernal pools. The estimate for the Whittenton alternative is slightly higher at 187.98 due to the longer alignment. The diesel rail alternatives impact approximately 3.5 acres less because they do not require additional land alteration for the electrical traction stations. The Rapid Bus alternative has the largest impact to upland habitat, estimated at 316.98 acres although impacts to biodiversity, rare species and wetland habitat may be less significant than those of rail because the acreage affected by the bus route is primarily along the edge of existing roadways in already degraded areas. In comparison, the Stoughton and Whittenton rail alternatives impact a greater area of unfragmented habitat with a high ecological value.

*Rare Species:* The Stoughton Electric alternative impacts approximately twice as many acres of mapped habitat compared to the Rapid bus alternative (32.6 acres compared to 16.2 acres). The Whittenton alternative impacts approximately 31.8 acres of mapped habitat. The diesel rail alternatives impact slightly less mapped habitat than the electric alternatives because the latter need additional land for electrical traction stations. As NHESP notes in its comment letter, the differences between Stoughton and Whittenton from a rare species perspective are not significant enough to influence the choice among these alternatives. The Whittenton route would have greater impacts to Box Turtle habitat but would avoid Pine Swamp, which contains habitat for a state-listed butterfly. Otherwise, both alternatives share the same route through the Hockomock Swamp and would result in similar barrier and fragmentation impacts. The Rapid Bus route would have the least impact to rare species and their habitats.

In the relative comparison of alternatives, the DEIR/S tables and text provide inaccurate information on Whittenton alternative rare species impacts. The discrepancy was identified during DEIR/S review, and MassDOT provided corrections in an email to NHESP dated May 19, 2011. Impacts to state-listed species habitat associated with the Whittenton alternative are 31.8 acres for the Whittenton electric alternative (not 13.2 acres as indicated in the DEIR/S) and 29.9 acres for the Whittenton Diesel. As noted above, the outcome of the review indicates that there is little difference among the Stoughton and Whittenton alternatives with regard to rare species impacts. They both result in fragmentation and interior habitat loss.

*Article 97 land:* The Stoughton route impacts approximately two acres of Article 97-protected land compared to the Whittenton Alternative that impacts less than one acre and the Rapid Bus, which impacts 4.5 acres.

*Biodiversity:* the DEIR/S includes a detailed analysis of biodiversity impacts using the Conservation assessment and Prioritization System (CAPS) analysis developed by University of Massachusetts (UMass) Amherst. The analysis, as described in more detail below, is useful in developing a better understanding of the relative impacts of alternatives on biodiversity at a landscape level of analysis. Some of the more detailed micro-scale level of impacts cannot be analyzed at the CAPS level of resolution. Based on the analysis, the rail alternatives have substantially more impacts to biodiversity than the Rapid Bus, and the Stoughton and Whittenton alignments are similar in their level of impact. As noted in MasssDEP's comment letter, additional analysis was done by UMass at MassDEP's request and this analysis highlighted a



greater impact from the Stoughton direct route (compared to Whittenton) in terms of its loss of habitat areas that have a high Index of Ecological Integrity (IEI).

*Noise and Vibration:* The Stoughton Electric alternative will impact approximately 2,136 sensitive receptors (1,728 moderate and 408 severe impacts) compared with 2,243 sensitive receptor impacts for the Whittenton Electric (1,826 moderate and 347 severe). The diesel impacts are less (1,793 total receptors impacted for Stoughton compared with 1,987 for Whittenton). In Taunton, the Whittenton route would result in disproportionate impacts to residents in Environmental Justice communities. The DEIR/S concludes that, for the Whittenton route, almost three times as many residents in Environmental Justice neighborhoods in Taunton will be disproportionately impacted by noise in comparison to the percentage of the population affected in non-Environmental Justice neighborhoods. Within the City of Taunton, the Stoughton Electric and Diesel alternatives would generate 12 and 5 severe noise impacts respectively, compared to 33 and 40 severe impacts from Whittenton's operations. In addition, the Whittenton Alternative will cause 708 severe horn noise impacts in Taunton compared with 28 severe horn impacts from the Stoughton Alternative. Noise impacts would also be experienced by residents in New Bedford and Fall River who would be similarly affected regardless of route since the Stoughton and Whittenton alignments are the same in the Southern Triangle. Electric train operations associated with the Fall River Secondary would result in 581 moderate and 155 severe impacts to residential receptors. The New Bedford Main Line segment would result in 298 moderate and 63 severe impacts to residential receptors. The DEIR/S does not identify any sensitive receptors for noise associated with the Rapid Bus because it will operate in areas already impacted by traffic-related noise and will not result in a measurable difference to receptors.

*Indirect and Cumulative Impacts:* An analysis of secondary growth impacts associated with the alternatives, including induced growth and socio-economic impacts, is included in the DEIR/S and discussed below in the section on Indirect and Cumulative Impacts.

*Method and criteria for comparative analysis:* The DEIR/S does a good job in explaining the method and criteria used for the comparative analysis of alternatives, and providing sufficient data for the reviewer to understand the overall impacts and trade-offs among alternatives. However, as noted in several comment letters received, the A-F grading approach used may not be the best way to present a fair and unbiased comparison of alternatives. I recommend that MassDOT not use this approach in any summary tables presented in the FEIR/S. Rather, actual quantification of impacts should be presented in comparison with the no-build and other alternatives (versus comparison with the worst-or best performing alternative which can result in an "A" for a route that results in permanent direct impacts to 12 acres of high quality wetlands).

*No-Build/Enhanced Bus Alternative:* The DEIR/S describes a No Build-Enhanced Bus alternative that includes foreseeable transportation projects and other developments assumed to be in place by the project build year. The no-build rail assumes an expansion with seven additional tracks at South Station (for a total of 20 tracks). The enhanced bus component builds on existing bus routes and park and ride lots but does not include any new service (the new service is evaluated as the Rapid Bus alternative). Enhancements included for the no-build alternative include bus schedule enhancements, new and expanded park-and-ride facilities,



transportation demand management, and transportation policy enhancements for commuter bus and other programmed and funded improvements for the system. The ridership analysis indicates that the No-build/Enhanced Bus alternative will achieve an increase in ridership equivalent to a diversion of 400 riders from car to public transit. VMT reductions projected for this alternative are estimated in the DEIR/S to be 75,100.

### *Layover Facilities*

The DEIR/S includes information on five potential layover sites for the rail alternatives. Two layover sites will be required for the proposed rail service; one on the New Bedford line and another for the Fall River line. The sites identified in the DEIR/S include the Weaver's Cove East and Weaver's Cove West sites in Fall River, the ISP site in Freetown, the Wamsutta site in New Bedford near the proposed Whale's Tooth station, and the Church Street site in New Bedford. The FEIR should include additional information and analysis of the layover facilities as outlined in the Scope below.

### *Conclusion – Alternatives Analysis*

The DEIR/S concludes that the Stoughton route is the best alternative in terms of practicability and meeting the overall project purpose of expanding transit service to the South Coast region. I concur with MassDOT that based on the analysis presented, the Attleboro and Rapid Bus alternatives are not feasible, and the Whittenton Route does not serve the project purpose as well as the Stoughton direct route. In addition, the Whittenton Alternative would result in substantially more noise impacts, both moderate and severe, to a large number of residents in the Taunton area, including those in Environmental Justice communities. The Whittenton alternative also raises public safety concerns due to the necessity for 12 at-grade crossings in an approximately one-mile section of the route through Taunton. Although the Whittenton route has approximately one acre more in wetlands impacts compared to Stoughton, as indicated in MassDEP's comment letter, it is reasonably likely that through further minimization, mitigation and compensatory measures, which should be detailed in the FEIR, the divergence between these two alternatives can be narrowed to the point where their net differences in environmental impacts will be negligible. Both the Stoughton and Whittenton Alternatives impact rare species and their habitats to a similar degree. Having considered these factors relating to noise and public safety, environmental justice and project purpose, I agree that the Stoughton Route is preferable to the Whittenton route and should be carried forward for further analysis in the FEIR.

The DEIR/S includes a comparative analysis of electric and diesel options for all rail alignments. Although the electric alternatives result in some additional land alteration compared with diesel, I believe, on balance, that the air quality benefits of electric warrant selection of electric as the preferred power source. Therefore, the Scope below focuses on the Stoughton Electric as the preferred alternative to be carried forward to the FEIR.



### Freight Services

Several commenters expressed concern about potential freight through the Hockomock Swamp. In a Memo dated June 23, 2011, MassDOT clarified that the South Coast Rail project has not been designed to accommodate freight traffic north of Taunton through the Hockomock Swamp where freight currently does not exist. MassDOT also notes that if freight is proposed in the future, further environmental review would be required.

### Land Alteration

As discussed in the alternatives section above, the DEIR/S provided a detailed comparative analysis of alternatives that includes estimates of project-related impacts to wetlands, endangered species, biodiversity, environmental justice communities and socio-economic indicators.

The DEIR/S estimates the total habitat loss for the preferred Stoughton alternative at approximately 251 acres compared to approximately 360 acres for the Rapid Bus, 254 acres for the Whittenton Electric Alternative, and 266 acres for Attleboro Electric. The cumulative estimates provided appear to be for the rail and bus route alignments only and it is not clear if the estimates include land alteration associated with the stations and layover facilities, which should be clarified in the FEIR. For the preferred alternative, the Stoughton route, the estimate for habitat loss includes 182.27 acres of upland habitat, 55.05 acres of supporting upland for vernal pools, 11.86 acres of direct wetlands impact (BVW) and 1.77 of vernal pool wetland impact. Additional wetlands impacts (e.g. for Riverfront and Bordering Land Subject to Flooding) should be detailed in the FEIR.

The DEIR/S describes five potential layover facilities in New Bedford and Fall River. The total amount of land alteration associated with project layover facilities is not defined in the DEIR/S. However, the DEIR/S summary of property acquisition indicates that an area of 11 acres to 44 acres would be required per site. Property acquisition estimates for the various alternatives range from 75.36 acres for the Whittenton diesel to 106.80 acres for the Stoughton Electric. The analysis of layover facility impacts should be expanded in the FEIR as outlined in the Scope below.

### Ridership Projections

The DEIR/S includes a detailed analysis of ridership and traffic estimates associated with each alternative, which were developed and calibrated by the Central Transportation Planning Staff (CTPS) using its Regional Travel Demand Model (RTDM). The inputs for the RTDM included land use assumptions, transportation service assumptions, and modeling methods. The DEIR/S discusses the sources of information for the analysis, which included input from state, federal, and regional agencies, and local communities. The modeling process used by CTPS is consistent with other major transportation projects in eastern Massachusetts, which allows for a consistent comparison across alternatives based on their project ridership and specific elements such as service plans and demographics. The model incorporates connections to commuter rail



lines, the central subway system, and bus routes in regional communities, which supports the analysis of system-wide boardings and regional mobility.

To estimate future ridership projections, the CTPS refined their RTDM set to include regional transportation projects and land use alternatives based on regional plans for the study area and the proposed operational plans for the project alternatives. The DEIR/S includes information on the ridership modeling methodology, model inputs, transit operating plans, and a detailed discussion of the ridership projection results. Ridership forecasts were developed for all alternatives for the 2030 forecast year. The output of the model runs for the various rail and Rapid Bus alternatives were compared to the No-Build (which includes assumptions to enhance existing bus service) to see what travel pattern changes would occur based on implementation of alternative transit system improvements.

The ridership analysis compares alternatives based on several different metrics including new linked trip estimates, which represents the number of people who, without the project, would otherwise have driven to work. In addition to the estimates for mode shifts (from auto to transit), the results provide estimates for the overall increase in transit use and the total reduction in vehicle miles traveled (VMT) projected for each alternative. The reduction in VMT correlates to air quality benefits associated with the project. New system-wide boarding estimates represent the overall draw of passengers to the commuter rail transit system due to the proposed project.

The No-Build/enhanced bus alternative is expected to generate an increase in linked transit trips of 400 daily linked trips, compared to 5,900 for Stoughton Electric, 5,000 for Stoughton Diesel, 5,500 for Whittenton Electric, 4,600 for Whittenton Diesel, and 1,700 for Rapid Bus (diesel). The Stoughton Electric alternative has the greatest benefit in terms of shifts from automobile to public transit and reductions in VMT and vehicle emissions. Total daily ridership for the alternatives are estimated to be: Stoughton Electric - 9,580; Attleboro Electric - 9,360; Whittenton Electric - 9,640; and Rapid Bus - 4,200. Electric locomotives can operate at higher speeds than diesel engines and therefore attract more ridership resulting in greater VMT reductions for the electric alternatives compared with Rapid Bus or diesel rail alternatives.

#### Secondary Growth and Cumulative Impacts

The DEIR/S includes a comprehensive analysis of indirect impacts associated with the project, including induced growth expected as a result of the proposed transit project. The assessment of induced growth quantifies household and employment changes in the south coast communities. Other aspects of the indirect impact assessment consider changes in land use patterns associated with a "business as usual" scenario for the growth expected in the region by 2030 and an alternative scenario based on MassDOT's smart growth plan as described in the South Coast Rail Land Use and Economic Development Corridor Plan. The indirect analysis also evaluates encroachment-alteration indirect effects such as the long-term decline in the viability of a population of a particular species as a result of habitat fragmentation caused by the project. The DEIR/S includes a cumulative impact analysis that evaluates changes in the study area as a result of the combined effects of the project, past development, and reasonable foreseeable future actions.



The DEIR/S includes information on the methodology and assumptions used in the indirect and cumulative analysis. The analysis includes potential impacts of the proposed transit project to land use, infrastructure requirements, and the social and economic environment. Induced growth in the vicinity of proposed stations and nearby communities was estimated using information from literature review and regional growth projections, including data obtained from regional planning agencies and the Transportation Economic Development Impact System (TREDIS) model.

The analysis of the smart growth scenario assumes that 1) infrastructure constraints will be overcome within reason and that the Commonwealth will support investments in infrastructure to realize more compact investment; 2) local rezoning can be expected to occur for Priority Development Areas (PDAs) to accommodate higher levels of development and different permitted uses; and 3) a greater mix of multi-family and smaller-lot single-family units will be developed under the smart growth scenario. The analysis also assumes that proposed stations are designed to optimize Transit Oriented Development (TOD) opportunities with the full range of smart growth measures as provided in the Corridor Plan and regional long-term plans.

In developing the 2030 smart growth scenario, all of the Priority Development Areas (PDAs) were designated to receive a portion of housing and job growth and 50 percent of projected growth (baseline and induced) was assumed to shift from Priority Protection Areas (PPAs) to PDAs, with 25 percent shifting from "neutral" areas to PDAs. The DEIR/S includes the results of analysis, which indicates that under the No-Build scenario, population in the study area is expected to grow by 74,371 households. The alternatives are expected to induce additional growth estimated to be 2,057 households (Attleboro), 1,972 (Stoughton) and 1,310 (Rapid Bus). Under the No-Build scenario, job growth in the study area is expected to add 81,615 jobs by 2030. The induced job growth associated with the project is estimated to be 2,600 (Attleboro), 2,535 (Stoughton), and 1,678 (Rapid Bus). The DEIR/S details how growth in households and jobs would be allocated, with some communities gaining and others losing jobs and households.

The DEIR/S further develops the analysis by evaluating impacts of induced growth on land use, farmland, wetlands, biodiversity, water and sewer infrastructure, and air quality. Metrics used were based on published sources (e.g. loss of 0.3 acres of forest land per household under the No-Build scenario). Information from the MassAudubon report "Losing Ground" was used to estimate the direct and indirect impacts on biodiversity as a result of new development in the south coast region. The analysis in the DEIR/S assumes a thirty percent reduction in land consumption based on a high-level implementation of Smart Growth measures (and 21 percent reduction for the "low" scenario). Both high and low metrics were used to reflect different level of implementation of the smart growth plan (e.g. 0.21 acres of forest land loss under the "high smart growth" scenario and 0.24 acres of loss under the low scenario). Community-specific metrics were also developed.

The induced growth in jobs and households estimated for the project alternatives amounts to a 2.8 percent increase above the No-Build scenario for the Attleboro alternative, a 2.7 percent increase for Stoughton, and a 1.8 percent increase for the Rapid Bus. The Whittenton alternative was not evaluated separately as it is expected to have a similar level of induced growth as the



Stoughton alternative. The DEIR/S includes estimates of projected residential unit and commercial development associated with proposed station area Transit Oriented Development (TOD). The Stoughton alternative (the preferred route) would include TOD at ten station sites. Overall, the redistribution of growth expected as a result of the smart growth plan would result in a greater amount of new growth in New Bedford, Fall River, Foxborough, and Taunton. Future growth would be shifted out of rural communities such as Acushnet, Berkeley, Lakeville, Rehoboth, Wareham and Westport as well as more developed communities such as Mansfield.

The DEIR/S evaluates the cumulative effects to the economy of each of the project alternatives combined with historic economic trends and recent or reasonably foreseeable future actions. All the alternatives are expected to measurably benefit the economy based on the projections for 2030 (\$487 million-Attleboro, \$479 million-Stoughton, and \$296 million-Rapid Bus). The analysis indicates that the incremental addition of project-related benefits to the regional economy are not substantial; the cumulative effects of any of the alternatives would be a minimal change to any of the economic parameters. The Rapid Bus alternative is expected to have less of an economic benefit due to less ridership, TOD, and induced growth when compared with the rail alternatives. Local economic impacts would vary depending on where the stations and PDAs are; the smart growth approach would concentrate impacts in PDAs. The analysis concludes that induced growth would result in economic benefits in the South Coast region, and that there are no substantive differences between the alternatives in their cumulative impacts to the economy on a regional basis. From a regional perspective, cumulative economic effects are expected to be minimally different from the No-Build scenario.

The amount of land expected to be lost as a result of growth under the No-Build scenario (i.e. no new transit) is estimated in the DEIR/S at 44,995 acres. When induced growth associated with the project is added, the loss is expected to be 46,165 acres (Attleboro), 46,121 acres (Stoughton), and 45,756 (Rapid Bus). The DEIR/S indicates that for every one acre of development, three acres of biodiversity are impacted. The No-Build alternative is expected to result in a loss of biodiversity value in 134,984 acres of land. The Stoughton Alternative is expected to result in an additional indirect loss of 1,126 acres of land compared to the No-Build, which corresponds to an additional loss of biodiversity value in 3,378 acres of land (for a total loss of value in 138,362 acres due to baseline and project-related induced growth). The combined loss of land associated with the Stoughton route is 1,233 acres (106.8 from direct conversion and 1,126 from induced growth). The DEIR/S quantifies cumulative impacts to biodiversity based on historic trends, the project alternatives, and other recent and foreseeable development. The analysis indicates that implementation the smart growth strategy would be beneficial environmentally and would reduce habitat degradation by approximately 50 percent.

The DEIR/S presents additional detail on the projected losses in forested land and wetlands under the No-Build and other project alternatives, and quantifies reductions in impacts expected under a smart growth approach to development. Cumulative impacts to rare species, water quality and wetlands are evaluated. The induced growth-related loss of wetlands is estimated at 13 acres for the Stoughton alternative, which could be reduced to a 9.3-10-acre loss under a smart growth development scenario. The total direct and indirect impacts to wetlands are estimated to be approximately 25.35 acres for the Stoughton alternative (this estimate is for



Bordering Vegetated Wetlands and Outstanding Resource Waters associated with vernal pools. Additional detail on other resource impacts will be included in the FEIR).

The analysis of indirect impacts also considers additional water demand associated with induced growth of households, estimated at 285,025 gallons per day (gpd) more than the No-Build for the Stoughton Alternative (184,438 gpd for the Rapid Bus and 294,287 gpd for Attleboro Alternative). Additional greenhouse gas (GHG) emissions associated with induced household growth was analyzed using the eQUEST model and estimated to result in an increase in GHG emissions of 20,750 tons per year (tpy) of CO<sub>2</sub> for the Stoughton Alternative, 21,424 tpy for Attleboro Alternative, and 12,427 tpy for the Rapid Bus Alternative. The amount of vehicle miles travelled (VMT) is expected to increase as a result of induced growth. The DEIR/S projects an increase of approximately 75,422 VMT for the Stoughton alternative and estimates that implementation of aggressive smart growth measures could result in a decrease of 490,451 compared to the No-Build “business-as-usual” alternative.

The analysis in the DEIR/S indicates that cumulative impacts of the project’s emissions would not result in an exceedance of the National Ambient Air Quality Standards (NAAQS) for criteria pollutants for any of the project alternatives. Ambient air quality is expected to improve at the regional level due to increasing regulatory controls despite new sources of pollution. The difference in modeled air emissions (including CO<sub>2</sub>) among the alternatives is less than 0.2 percent and the percent change in emissions between the build without mitigation and the Build with Smart Growth alternative is less than 0.1 percent at a regional level, indicating no substantial difference in impacts to air quality. As noted above, the GHG analysis of mobile emissions for induced growth and smart growth has not yet been completed.

The proposed smart growth measures for the project would reduce the amount of land that would otherwise be developed in the region. Land use impacts associated with the project under the high and low smart growth scenario are estimated to be: 31,168 – 35,349 acres (Attleboro); 31,297 – 35,321 acres (Stoughton); and 31,058 – 35,051 acres (Rapid Bus), an improvement of approximately five percent over the “business as usual” development scenario. The preferred Stoughton route is expected to result in an additional loss of 1,233 acres of land compared to the no-build alternative. However, if smart growth measures are implemented as proposed for the Stoughton alternative, the DEIR/S estimates a reduction of approximately 9,674 acres in land lost to development, compared with development patterns associated with the “business as usual” scenario. Implementation of smart growth measures as proposed in the DEIR/S, through the South Coast Rail Economic Development and Land Use Corridor Plan, is clearly a good strategy to advance environmental protection in concert with anticipated economic development, and if successful will contribute to mitigation for project-related indirect impacts. The smart growth aspects of the mitigation plan should be further developed in the FEIR.

#### South Coast Rail Economic Development and Land Use Corridor Plan

The DEIR/S outlines strategies to promote smart growth including targeted state investments, a regional mitigation bank for private projects to support the South Coast Rail Economic Development and Land Use Corridor Plan (Corridor Plan), technical assistance to expand affordable housing and economic development opportunities, open space preservation,



and station area planning, and a regional Transfer of Development Rights (TDR) program to steer growth into areas appropriate for development (PDAs) and out of sensitive areas (PPAs). The South Coast Rail Corridor Plan received approval from the Governor in September 2010 with the signing of Executive Order 525 and \$320,000 in grants for smart growth assistance to communities in the south coast region. Executive Order 525 directs state agencies to review their policies, actions and investments to support and implement the recommendations of the Corridor Plan. Investments include, but are not limited to, water, wastewater, transportation, housing and economic development funding and land preservation funding. The FEIR should expand upon implementation of the Corridor Plan in conjunction with the proposed rail project as outlined in the Scope below.

### Air Quality

The DEIR/S includes a mesoscale analysis that evaluates regional air quality impacts of the project alternatives with respect to emissions of Volatile Organic Compounds (VOCs), Nitrous oxides (NO<sub>x</sub>), Carbon monoxide (CO) Carbon dioxide (CO<sub>2</sub>) and Particulate matter (PM). The analysis includes existing and future conditions in the study area. A microscale analysis was also conducted to look at hot spot areas where increases in CO and PM may occur at congested locations such as roadway intersections, and in the vicinity of stations and layover facilities. The DEIR/S evaluates air quality impacts in the context of the National Ambient Air Quality Standards (NAAQS). The DEIR/S explains the methodology used for the meso and micro-scale analyses and includes model input data in the appendices. The vehicle emission factors used were obtained using EPA's Mobile 6.2 emissions model and are adjusted to reflect Massachusetts-specific conditions such as vehicle age distribution, the statewide maintenance and inspection program, and Stage II Vapor Recovery System.

The microscale analysis used the EPA computer model CAL3QHC to predict CO and PM concentrations at receptor locations at each intersection in the study area, which included 12 intersections in the vicinity of proposed stations. The EPA atmospheric model AERMOD was used to model locomotive emissions at stations, layover facilities and environmentally sensitive areas such as the Hockomock Swamp. Mobile vehicle emissions were modeled using EPA's Mobile 6.2 emission factor model and the Central Regional Planning Staff (CTPS) regional travel demand model.

The DEIR/S includes the results of air quality analyses for the No-Build/Enhanced Bus, rail alternatives and the Rapid Bus alternatives, as well as stations and layover facilities. The analysis indicates that all alternatives would comply with the Clean Air Act Amendments and will not create any new violations of the NAAQS. The electric trains produce less pollutant emissions than the diesel rail and Rapid Bus alternatives. With regard to the microscale analysis for hotspot locations, the electric trains will not generate emissions locally that would affect receptor locations near the proposed stations. The diesel rail alternatives would result in an increase of CO, NO<sub>x</sub> and particulate matter at receptor locations in the vicinity of layover facilities and stations. The DEIR/S indicates that maximum concentrations (2016) would be below the NAAQS.



The DEIR/S analyzes ridership demand and changes in travel patterns for the various alternatives to develop a projection for reduction in Vehicle Miles Travelled (VMT) as a result of the proposed project. The VMT reductions correspond to a reduction in CO<sub>2</sub> emissions due to shifts from automobile to transit use. At the regional level, CO<sub>2</sub> emissions (mobile vehicles) are estimated at 27,800,000 tons per year (tpy) for the No-Build/Enhanced Bus. The Stoughton Electric alternative performs best in terms of CO<sub>2</sub> reduction with an estimated 59,715 tons per year reduction compared to the 2030 No-Build/Enhanced bus alternative. The Whittenton Electric provides a reduction of 45,584 tons per year (tpy) of CO<sub>2</sub>. The Stoughton Diesel provides a reduction of 44,007 tpy compared to 32,601 tpy for Whittenton Diesel and 6,588 tpy for the Rapid Bus (diesel) alternative. The difference in GHG reductions can be attributed primarily to the VMT reductions gained by the alternatives. The Stoughton Electric obtains a reduction of 295,922 VMT daily in 2030 compared with a reduction of 228,018 for the Whittenton Electric. The Diesel alternatives achieve reductions of 228,705 VMT daily (Stoughton), 173,961 VMT (Whittenton) and 81,495 VMT (Rapid Bus). The time of travel from the South Coast to Boston appears to be a significant factor in influencing ridership and the resultant VMT reductions. The Stoughton Electric attracts more riders from New Bedford and Fall River compared with the Whittenton alternative, hence the better VMT and CO<sub>2</sub> reductions as people who would otherwise drive the longer distance from those areas are switching to the train.

An analysis of greenhouse gases from stationary sources was not conducted. The DEIR/S indicates this is because no buildings are proposed for the stations. MassDOT has committed to use train engine plug-ins and electric block heaters at layover facilities. Additional analysis of GHG emissions and mitigation should be included in the FEIR as outlined in the Scope below.

### Transportation

The DEIR/S includes a detailed analysis of transportation in the region addressing existing conditions as well as historical and future trends. Mitigation measures are proposed for roadways and intersections that would be most impacted by traffic associated each of the alternatives. The DEIR/S presents MassDOT's case for the need for the project based on adverse roadway and related air quality conditions, transit mode choice and equity, and implementation of the Commonwealth's Transportation policies. The analysis documents the growth in traffic volume over the past decade, which is 2-3 percent overall and 5 percent in some communities, that has created roadway congestion on the limited set of highways connecting commuters from the southeast region to Boston and Cambridge. These consistently congested conditions result in a Level of Service (LOS) of F and increased vehicular accidents on the three major highways serving the south coast. There has been an overall increase of seven percent in accidents, injuries and fatalities during the 2004-2006 study period with some routes showing increases of almost 30 percent in accidents or fatalities. Fall River and New Bedford had the first and third highest number of vehicle crashes during this period. As new households continue to be added to the region, the projected growth in commuter trips and VMT will exacerbate existing congestion problems, further compromising automobile safety and increasing emissions of mobile source pollutants that have an adverse impact on air quality and climate change.



### Endangered Species

The DEIR/S includes the results of an endangered species impact assessment that investigated areas of mapped habitat within 100 feet of the right-of-way (ROW) of rail and Rapid Bus project alternatives. The DEIR/S identifies 15 Priority Habitats within the study area and 15 Estimated Habitats. Thirteen state-listed species are documented to occur within these habitats, including amphibians, reptiles, crustaceans, dragonflies, butterflies, moths, and plants. These species are likely to occur adjacent to the ROW (defined in the DEIR/S as within 100 feet of the centerline of the ROW). Additional state-listed species may occur beyond that radius and may be impacted by habitat alteration associated with project construction and operation. The DEIR/S identifies 16 additional state-listed species for which habitat may be found adjacent to the project corridor.

None of the proposed station sites are located within mapped habitat of state-listed species, except for Raynham Place where the platform is located within mapped habitat. The DEIR/S indicates the Raynham Place station site is previously developed and does not provide potential habitat. The DEIR/S identifies five potential alternatives for layover facilities in New Bedford, Fall River and Freetown, none of which are located within mapped habitat. The mid-day bus layover facility for the Rapid Bus alternative is not within mapped habitat. A mid-day layover facility in Boston has yet to be identified but it is unlikely to be located within mapped habitat as noted in the DEIR/S.

The state-listed species known to occur in areas intersecting or adjacent to the ROW of project alternatives include the Blue-Spotted Salamander (special concern), the Marbled Salamander (threatened), the Wood Turtle (special concern), Blanding's Turtle (threatened), Eastern Box Turtle (special concern), Coastal Swamp Amphipod (special concern), Mocha Emerald (special concern), Hessel's Hairstreak (butterfly of special concern), Pale Green Pinion Moth (special concern), Water Willow Stem Borer (moth of special concern), Gypsywort (endangered plant), Long-leaved Panic Grass (threatened), and Long's Bulrush (threatened).

The DEIR/S describes the methodology used to assess impacts to endangered species and their habitats. As noted in the NHESP comment letter, there are some issues relating to the methodology that should be resolved in consultation with NHESP during FEIR preparation. Some of the measures used in the DEIR/S may not provide a meaningful basis for comparing state-listed species impacts among the various alternatives. These measures include (1) the total acreage of Priority Habitat impacted with or without existing disturbed areas included, and (2) the individual species impact assessments based on vegetation cover types. NHESP has recommended that the Barrier Effect Grade shown in Table 3.3-24, and the NHESP scores and overall assessment of "Habitat Functions Lost" (see tables in Section 4.15.3.5) be used for evaluating the alternatives. Based on these measures, the Stoughton and Whittenton alternatives have similar levels of impact on state-listed species, which are substantially greater than those of the Attleboro or Rapid Bus Alternatives.

The DEIR/S quantifies potential habitat loss for the various alternatives. Upgrades to rail lines on the Southern Triangle, common to all rail alternatives, will result in foraging, breeding/nesting, and wintering habitat loss, including approximately 2 acres in areas along the



Fall River Secondary and 5.1 acres along the New Bedford Main Line. One traction power station is located within Priority and Estimated Habitat and would result in 0.8 acres of habitat loss in the Southern Triangle. The DEIR/S identifies potential impacts including increased mortality of turtles crossing tracks and increased mortality of moths and butterflies due to herbicide use near streams and wetland habitat.

The Rapid Bus Alternative impacts an estimated 16.2 acres of mapped state-listed species habitat, which is comprised of edge habitat in the vicinity of existing roadways. The Attleboro Alternative, eliminated for operational infeasibility, would have impacted approximately 30 acres of habitat. However, these alternatives would run within or immediately adjacent to existing active rail lines (Attleboro) or existing highways (Rapid Bus). Although these alternatives might impact some Priority Habitat areas, NHESP indicates that the endangered species impacts and habitat fragmentation effects would be modest, especially in comparison to the Stoughton Alternative.

The Stoughton and Whittenton alternatives impact both edge and interior habitats, and are comparable in terms of their impacts to rare species habitat. Either alignment would result in approximately 30 acres of impact to state-listed species habitat and are similar in terms of the quality of habitat affected. While the Whittenton route avoids impacts to habitat of the Hessel's Hairstreak in Pine Swamp it would impact additional Box Turtle habitat. NHESP has indicated in its comment letter that rare species impacts should not be a deciding factor in choosing among the Stoughton Direct route and Whittenton variation.

The DEIR/S describes rare species studies conducted in 2001 and 2008 along the proposed Stoughton line in areas where there is currently no track, as well as studies conducted for the Attleboro Alternative. The 2001 studies in Hockomock and Pine Swamps included an area within 600 feet of the right-of-way centerline. The Stoughton direct route crosses two Priority Habitats including land within the Hockomock Swamp and Pine Swamp, and the Whittenton Alternative crosses the Three Mile River ACEC and the Hockomock Swamp. Construction of the preferred Stoughton route would result in the loss of habitat of five state-listed species on the proposed alignment north of Weir Junction as well as potential habitat of nine state-listed species adjacent to the corridor in the Southern Triangle. The Stoughton route results in direct loss of an estimated 3.4 acres of habitat in Hockomock Swamp and 22.1 acres within the Pine Swamp, for a total of 25.5 acres of Priority and Estimated Habitat (including one traction station proposed in the Hockomock Swamp). Indirect impacts associated with the proposed Stoughton rail include loss of migratory routes (barrier effect) and increase in habitat fragmentation resulting from construction within currently undeveloped forested land. Widening of the canopy gap for construction and Right-of-Way (ROW) maintenance as well as clearing in the vicinity of vernal pools is likely to cause additional indirect impacts.

The DEIR/S outlines potential mitigation measures for the preferred Stoughton route, which include an 8,500 linear foot trestle in the Hockomock Swamp, construction of wildlife passages and nesting sites, acquisition of land or conservation restrictions to protect critical habitats, habitat enhancement, contribution to a mitigation bank for species protection, funding research programs to benefit state-listed species, and construction-related measures to avoid and minimize impacts. Detailed mitigation plans should be included in the FEIR as outlined in the Scope below.



### Wetlands

The DEIR includes a description of wetland systems identified along the proposed alignment for the rail and the Rapid Bus alternatives, and at the proposed station and layover sites. A quantitative analysis is provided as well as summary information on wetland functions and values with graphics illustrating each segment of rail or roadway. The DEIR/S describes the assessment methodology and discusses approaches to mitigation in the context of state and federal regulatory requirements, including the criteria for a variance from Wetlands Protection Act (WPA) performance standards. The DEIR/S documents that there are no project alternatives that could proceed without a variance and presents information to support MassDOT's contention that the project serves an over-riding public interest. Mitigation measures to address the variance criteria have not yet been developed. The FEIR should include additional information and analysis to support MassDOT's variance request as outlined in the Scope below.

The U.S. Army Corps of Engineers (USACE) Highway Methodology was used including the guidance on evaluation of functions and values contained in the USACE New England District's Highway Methodology Workbook Supplement (1999). Each of the alternative project corridors was assessed for the presence of wetlands within 100 feet of the right-of-way. Permanent and temporary impacts are addressed and indirect and cumulative impacts are evaluated as noted above in the review of the indirect impact assessment.

The Southern Triangle is common to all rail alternatives. Direct impacts to wetlands associated with the proposed upgrades to the Fall River Secondary line are estimated in the DEIR/S to amount to 2.72 acres of permanent Bordering Vegetated Wetlands (BVW) and 2.68 of temporary BVW alteration; 0.45 acres of permanent Outstanding Resource Water (ORW) alteration and 0.26 of temporary ORW alteration; 3.25 acres of permanent Bordering Land Subject to Flooding (BLSF) and 1.25 acres of temporary BLSF alteration; and 1,146 linear feet of Bank impact. The volume of BLSF alteration is not quantified in the DEIR/S. Approximately 2 acres of the permanent BVW impact occurs within wooded swamp along the Freetown section of the alignment. The DEIR/S identifies 34 stream crossings along the Fall River Secondary, including 11 perennial streams. Work is proposed within Riverfront Area at all perennial stream crossings. The ORW impacts are associated with two vernal pools.

The project includes upgrades to the existing New Bedford Main line freight track. Direct wetland impacts associated with these upgrades include: 2.53 acres of permanent BVW alteration and 4.93 acres of temporary BVW alteration; 0.1 acres of permanent ORW impact and 0.17 acres of temporary alteration to ORW; 7.65 acres of permanent BLSF impacts and 2.33 acres of temporary BLSF impacts (volume has yet to be determined); and 832 linear feet of temporary impact to Bank. The traction station for the Stoughton electric alternative requires an additional 0.02 acres of BVW impact. A portion of the ROW passes through the Assonet Cedar Swamp Wildlife Sanctuary, the Acushnet Cedar Swamp State Reservation, and a large wetland system associated with Fall Brook. There are 34 stream crossings associated with the project on the New Bedford Main line, ten of which are perennial and would involve impacts to Riverfront Area. ORW impacts include one vernal pool in Berkeley.



The DEIR/S includes a comparative analysis of wetland impacts associated with the rail and Rapid Bus alternatives. The Attleboro and Rapid Bus alternatives result in the highest amount of BVW impacted with 20.56 acres of 21.48 acres respectively. The Stoughton Electric results in 11.94 acres of direct permanent wetland impact compared with 10.34 acres for the Whittenton alternative. Diesel options have slightly less wetlands alteration as they do not require electric traction stations. As noted in the DEIR/S and in comments received, the quality of habitat impacted is an important consideration in evaluating the significance of impacts and alternatives with less acreage of alteration may actually result in more significant impacts.

The Stoughton Electric preferred alternative, including the Southern Triangle and the corridor north of Weir Junction, will result in: permanent alteration of 11.84 acres of BVW and temporary alteration of 12.55 acres of BVW; 1.7 acres of permanent ORW impact and 2.63 of temporary ORW impact; 1.72 acres of permanent impact to wetlands within an ACEC; 23.33 acres of permanent BLSF alteration and 6.1 acres of temporary BLSF alteration (volume of BLSF to be determined in FEIR). Within the Hockomock Swamp in Raynham and Easton, in areas where an elevated trestle is not being proposed, the Stoughton route results in permanent alteration of 1.74 acres of BVW and 0.57 acres of temporary impact. As with the Southern Triangle portion of the route, the greatest impacts north of Weir Junction are in wooded swamps along the proposed rail alignment. In addition to direct impacts, the DEIR/S includes an analysis of indirect impacts and estimates that an additional 13 acres of wetlands would be impacted by induced growth associated with the rail project (for a total of 25.35 acres of impact). Biodiversity impacts are estimated at 3 acres for every one acre of land consumption, which would translate to degradation in biodiversity value of approximately 76 acres of land as a result of the project's direct permanent impacts and induced growth-related impacts to Bordering Vegetated Wetlands.

The DEIR/S includes a conceptual watershed approach to wetlands mitigation and indicates that the Stoughton Electric Alternative would require 23.57 acres of compensatory wetlands mitigation under state guidelines and 33 acres under federal guidelines for permanent resource impacts. Based on MassDOT's assessment, mitigation would be required in the Buzzards Bay Watershed (1.42 acres), Mount Hope Bay Watershed (0.27 acres), Neponset River Watershed (0.18 acres), and the Taunton River Watershed (21.7 acres). During preparation of the DEIR/S and based on consultations with state and federal agencies, the MEPA Office agreed with the Proponent that, in the case of this project, it would be difficult to develop very detailed plans for mitigation until the alternatives analysis was complete and a single preferred alternative identified for further analysis in the FEIR. As outlined in the Scope below, detailed wetland mitigation plans are required in the FEIR as well as public outreach by MassDOT during preparation of the draft plans.

#### Biodiversity and Wildlife Habitat

The DEIR/S includes a description of bioregions (or ecoregions) within the study area, which include the Southeastern Massachusetts Bioreserve, the Hockomock Important Bird Areas (IBA), the Freetown/Fall River State Forest and Southeastern Massachusetts Bioreserve IBA, Biomap Core Habitats, and Living Waters Core Habitats. The DEIR/S also includes an overview of plant communities, wetland and upland cover types, vernal pools, and wildlife including fish and bird species within the study area.



The Southern Triangle portion of the project involves upgrades to the New Bedford Main and Fall River Secondary lines, which pass through or adjacent to several areas of core habitat including the Acushnet Cedar Swamp, Assonet Cedar Swamp, Forge Pond, Turner Pond, and Freetown/Fall River State Forest. The New Bedford Main Line is adjacent to a large unfragmented wetland in Berkley and crosses Cotley River, Cedar Swamp River, Fall Brook and Assonet River, which are all important fisheries habitats.

The Stoughton Alternative includes improvements to existing active freight lines (track sections from Dean Street in Taunton to Cotley Junction, and north of Stoughton Station), as well as construction of tracks for commuter rail on an abandoned ROW between Dean Street and Stoughton Station. The DEIR/S indicates that the ROW provides suitable migratory habitat for wildlife because there are no ties and tracks to prevent turtles, amphibians, and small mammals from moving across the ROW. The DEIR/S indicates that the ROW does not likely provide suitable nesting, breeding or foraging habitat due in part to erosion resulting from unauthorized use by All Terrain Vehicles (ATVs), bicycles and pedestrians. The Stoughton Route crosses through Core Habitat in the Hockomock Swamp and Pine Swamp in Raynham. It crosses the Hockomock Swamp for approximately 1.6 miles and crosses three miles of Biomap Core Habitat within the Hockomock Swamp ACEC, as well as approximately one mile in the Pine Swamp and Core Habitat BM1196. The Stoughton Alternative crosses Taunton River, mapped by NHESP as a Living Water Core Habitat and identified as a fisheries habitat. Other fisheries habitat crossed by the Stoughton Alternative include Whitman Brook, Queset Brook, Black Brook, Pine Swamp Brook, and Mill River. The DEIR/S includes information on thirty-eight vernal pools identified along the Stoughton route (from Taunton north), mostly within the Hockomock Swamp. The Stoughton alternative also crosses and is adjacent to large wetland and upland areas in Stoughton and Easton including the Stoughton Memorial Conservation Land, which includes the Bird Street Conservation Land.

The DEIR/S discusses potential direct impacts such as vegetation clearing and site grading and impacts related to culvert and bridge construction or reconstruction. The DEIR/S estimates a direct loss of 88.46 acres of habitat along the Stoughton Electric route between Weir Junction and Stoughton Station. Approximately 31.68 acres of upland forested non-breeding habitat between 100 and 750 feet of 82 vernal pools would be lost, the majority of this would be north of Raynham Junction. The amount of fill to vernal pools along this section of the route is estimated to be 1.31 acres, which is associated with 16 vernal pools. Approximately 13.75 acres of buffer habitat within 100 feet of 29 vernal pools will be lost as a result of the project. Total loss of habitat for the Stoughton route, including the Southern Triangle is estimated to be 182.27 acres (upland), 11.86 acres (wetland), 1.77 acres (vernal pools), and 55.04 acres (supporting vernal pool upland habitat).

Indirect impacts such as fragmentation and edge effects, wildlife movement and migratory barrier effects are also discussed in the DEIR/S. The Stoughton Alternative will result in barriers to wildlife movement and related fragmentation impacts. It will also increase canopy gap through portions of the Hockomock Swamp in areas where the forest canopy has closed since abandonment of the historic rail line, resulting in edge effects with changes in light, temperature and humidity.



An analysis of biodiversity value and potential impacts of project alternatives was conducted by University of Massachusetts, Amherst using CAPS (the Conservation Assessment and Prioritization System). The analysis was conducted for baseline conditions, and for the Attleboro, Stoughton and Whittenton alternatives. The study area included the entire Taunton watershed and a 5 kilometer buffer around all rail lines for the alternative routes. The Stoughton and Whittenton variation were modeled with and without a trestle through the Hockomock Swamp. The CAPS analysis provides a quantitative assessment of ecological integrity to compare the relative habitat impacts of alternative development scenarios and/or the benefits of habitat management or environmental restoration options. It is a useful tool for environmental impact assessment and decision-making. CAPS defines ecological integrity as the ability of an area to support biodiversity and the ecosystem processes necessary to sustain biodiversity, over the long term. The output of the analysis is an Index of Ecological Integrity (IEI), based on a model that takes into account connectivity between various points on the landscape, habitat type and similarity, influence of nearby roads and traffic, and other metrics related to ecology and development. The CAPS model assigns a value of 0 to 1 for each point in the landscape, based on the ability of a point to serve as wildlife habitat, and generates an IEI score. Locations with the best habitat score 1.0 and lower quality habitat scores are closer to 0. Direct and indirect effects of the project degrade the value of that landscape point (or cell) to serve as wildlife habitat (as do other stressors such as roadways).

The DEIR/S includes the results of the CAPS analysis as well as a description of the methodology and assumptions. Overall, the two routes through Hockomock Swamp showed the greatest estimated loss in ecological integrity, followed by the Attleboro route with considerably less influence (77-80% of the loss associated with the Stoughton and Whittenton alternatives). The trestle alternatives through Hockomock Swamp reduced the modeled loss of ecological integrity somewhat, although many of the benefits of a trestle are likely to occur at a local scale below that of the CAPS analysis. Since a large section of the route, the Southern Triangle, is common to all the rail alternatives, the ecological integrity loss was also calculated for those portions of the alternative routes that are not in common. Excluding the Southern Triangle, the loss in ecological integrity ranges from 206.8 units for the Attleboro Alternative to 312.1 units for Stoughton (no trestle) and 319.5 units for Whittenton (without trestle). When the trestle is included, the modeled loss in ecological integrity for Whittenton is 309.2 units and for the Stoughton Alternative it is 302 units. The Southern Triangle results in an IEI loss of 172.5 units for a total estimated project loss of 474.5 units associated with the preferred Stoughton Alternative. The Rapid Bus was not analyzed and was assumed to have minimal loss in biodiversity compared to the rail alternatives because it would operate along existing roadways and habitat impacts would occur near areas that are already degraded.

The biodiversity analysis splits the project-related loss in ecological integrity into direct and indirect loss. The direct loss is primarily associated with the proposed stations. Most of the projected loss overall is associated with indirect impacts. The Stoughton route with the trestle will result in a loss of approximately 17.6 units of ecological integrity from direct impacts and 456.9 units will be lost as a result of indirect impacts. At MassDEP's request, UMass Amherst evaluated the degree to which important habitat (with IEI>0.6) in the baseline assessment would be compromised as a result of the Stoughton alternative's one-mile transit of the Pine Swamp, a 275-acre unfragmented high quality wetland that is avoided by the Whittenton route. The results



indicated that while the Whittenton route impacts 7 more units (compared to Stoughton), the Stoughton route would impact 13.5 additional units that had a high value for wildlife habitat. As noted in MassDEP's letter, UMass calculates that the loss of 13.5 units would be equivalent to 18 acres of Pine Swamp no longer being characterized as important wildlife habitat (i.e. not in the top 40 percent of IEI scores).

Based on the biodiversity analysis, the proposed Stoughton Alternative will result in substantial direct and indirect ecological impacts for which mitigation should be provided. MassDOT should develop targeted mitigation plans as outlined in the Wetlands and Biodiversity and other sections of the Scope below.

#### Water Quality and Public Water Supplies

The DEIR/S concludes that the Stoughton Alternative, which involves temporary construction activities within one Zone A area, Zone II areas for six wells, and the Interim Wellhead Protection Area (IWPA) for two wells, would not result in long-term impacts to water supply. During post-construction operations, the project will discharge stormwater to these same water supply protection areas as well as ten different waterbodies including one ORW within the Hockomock Swamp ACEC and the East Branch of the Neponset River in the Fowl Meadow ACEC. One new station in Easton is proposed within a Zone II area. MassDEP, in its comment letter, concurs with the DEIR/S conclusion that with comprehensive and early planning and design of adequate containment, minimization and mitigation measures and consistent implementation of maintenance procedures, the proposed project will not result in impairment of surface and groundwater quality or functions. Additional information on compliance with stormwater standards is required in the FEIR as outlined in the Scope below.

#### Article 97 lands

For each of the project alternatives, the DEIR/S identifies land impacted by the project that is protected under Article 97 of the Amendments to the Massachusetts Constitution. Portions of three protected open spaces and publicly owned land within one ACEC subject to the EEA Policy are proposed for acquisition as part of the Stoughton Alternative. Three of these parcels would be used for traction power substations.

#### Environmental Justice

The DEIR/S includes information on environmental justice populations in the project area, discusses relevant state and federal policies, and analyzes potential impacts to environmental justice populations with a comparative analysis of the effects of the various alternatives. The DEIR/S identifies areas in which there will be a disproportionate impact to environmental justice populations as a result of noise and vibration, and describes the potential benefits in terms of economic development and improved access to transportation, jobs and education. Environmental Justice neighborhoods are located in Attleboro, Canton, Fall River, Mansfield, New Bedford, Stoughton, and Taunton. The DEIR/S evaluates impacts related to neighborhood fragmentation, noise level increases, and residence or job losses associated with property acquisition. The analysis examines whether adverse impacts will be predominantly

borne, or experienced in more severity, by Environmental Justice populations in comparison to non-EJ populations in the same communities.

The Southern Triangle portion of the project contains a larger Environmental Justice population compared to areas further north along the alignment; 36 percent of the Environmental Justice population is around the Fall River Secondary and 50.4 percent around the New Bedford Main Line. Populations include those meeting the low income criteria as well as minority populations. 88.7 percent of Fall River's population live within Environmental Justice-designated neighborhoods.

Of the populations affected by noise impacts associated with the electric rail on the Fall River Secondary, 34.7 percent are Environmental Justice residences and 65.4 percent are not (for the diesel alternative it is 36 and 64 percent respectively). For the electric rail on the New Bedford Main line, the number of impacted Environmental Justice residences is 9.2 percent of the total while non- Environmental Justice residences account for 90.8 percent of residences affected (6.3 and 93.3 percent respectively for the diesel alternative). Impacts to Environmental Justice residences in Taunton account for 10.5 (electric) and 10.8 (diesel) percent of the total residences impacted. In New Bedford, the Environmental Justice residences account for 18.8 percent (electric) and 14 percent (diesel) of the total number of impacted residences.

The DEIR/S indicates that vibration impacts to residences could be mitigated by using ballast mats beneath the rail lines and "frogs" at selected switch locations as well as special pile-driving methods to reduce construction-related impacts. The electric alternatives will not adversely affect local air quality in Environmental Justice neighborhoods. Diesel alternatives will result in increased CO and particulate matter at the local level.

The noise impact analysis for the Stoughton Electric alternative concluded that 1,525 residences would be impacted by moderate and severe noise levels. The number of Environmental Justice residences affected is 110, approximately 7.2 percent of the total. Raynham and Easton do not contain Environmental Justice populations. The percent of noise-impacted residences within Environmental Justice neighborhoods in Stoughton is 25.1 percent and in Taunton it is 11.3 percent. The numbers for the diesel alternative are 25.8 percent and 4.3 percent for Stoughton and Taunton respectively. The Whittenton Electric alternative in comparison would result in moderate or severe impacts to 494 residences within Environmental Justice neighborhoods in Taunton, representing 36.4 percent of the total residences affected in that community. The Whittenton diesel results in noise impacts to 506 residences in Taunton (36.5 percent of the total residences affected). The Rapid Bus alternative does not result in adverse noise impacts to Environmental Justice communities.

The proposed Battleship Cove and Whale's Tooth stations in New Bedford, the King's Highway Station, the Fall River Depot, and the Taunton Station are expected to catalyze redevelopment and improve access to transit, as well as employment and educational opportunities for Environmental Justice populations in the area. Data included in the DEIR/S indicates that 20.7 percent of households in Fall River do not own a car compared with the state-wide average of 12.7 percent. The DEIR/S projects that the value of homes in the vicinity of proposed stations will increase as a result of the project and related TOD.



The DEIR/S evaluates potential impacts relating to property acquisition and concludes that acquiring nine parcels as proposed in Fall River will result in a tax revenue loss for the City which would affect financial resource availability for the surrounding Environmental Justice neighborhood. The acquisition of commercial and industrial buildings on the properties may also result in job losses for the nearby Environmental Justice population. The proposed Fall River Depot station is expected to spur growth and catalyze redevelopment of the waterfront area.

The DEIR/S evaluates time of travel for the various alternatives in relation to access to jobs for populations in New Bedford, Fall River and Taunton. The study concludes that the Fall River Environmental Justice populations will benefit the most and New Bedford the least in terms of improved access to basic jobs. The greatest improvement would be realized through the Stoughton Electric because of its faster travel time and projected ridership from the three communities.

The analysis in the DEIR/S concludes that Environmental Justice communities, at a regional level, would not be disproportionately affected by the proposed project. However, at a local community level, Environmental Justice communities in Stoughton would be disproportionately affected by noise relative to non- Environmental Justice communities in that municipality. The Whittenton alternative would result in even greater noise impacts to Environmental Justice communities. The noise impacts in Fall River would be predominantly borne by Environmental Justice residences. Mitigation measures for noise and vibration impacts should be further evaluated and committed to as outlined in the Scope below.

### Coastal Resources

The Fall River Secondary crosses approximately 4,100 feet of filled tidelands in seven locations and three non-tidal rivers and streams potentially subject to Chapter 91 Jurisdiction. Approximately 6.6 miles of the Fall River Secondary (in three segments) is located within the Coastal Zone and a total of 0.5 miles of the Fall River Secondary near the southern end of the project area is located within the Mount Hope Bay Designated Port Area (approximately 2,100 feet near Weaver's Cove and 500 feet near Battleship Cove). The New Bedford Main Line crosses several areas of filled tidelands south of Wamsutta Street in New Bedford (approximately 3,900 feet of filled tidelands in four locations) and five potentially jurisdictional non-tidal rivers and streams.

The DEIR/S describes the proposed work at each crossing and provides a summary of the potential approvals necessary under Chapter 91 and the Coastal Zone Management Program. Certain Chapter 91 jurisdictional and licensing issues remain unclear and MassDOT should address these with MassDEP and in the FEIR as outlined in the Scope. The DEIR/S indicates that the Stoughton line (north of southern triangle) is entirely within inland communities and does not include any work within filled tidelands, flowed tidelands or the Massachusetts Coastal Zone. However, there are nine crossings of non-tidal rivers that may be subject to Chapter 91.

The DEIR/S discusses proposed work at stations and layovers and consistency with regulatory standards and policies. Additional information is required in the FEIR as outlined in the Scope below. Four of the proposed station sites are located on filled tidelands or are within



the Massachusetts Coastal Zone: Battleship Cove, Fall River Depot, Freetown, and Whale's Tooth. Battleship Cove and Whale's Tooth station sites include landlocked tidelands, and require a Public Benefits Determination. Four of the alternative layover sites are located within filled tidelands and require evaluation for Chapter 91 jurisdiction and compliance and consistency with Coastal Zone Management policies. The Wamsutta, New Bedford layover facility is within landlocked tidelands.

### Cultural Resources

The DEIR/S includes a detailed evaluation of historic and archaeological resources in the Area of Potential Effect (APE) and identifies specific historic districts and buildings that may be adversely affected by the project, as well as sites of cultural value to Native American people. The Wampanoag Tribe of Gay Head/Aquinnah has indicated that the Hockomock Swamp and the Pine Swamp are regarded as traditionally culturally sensitive lands. Impacts to traditional cultural properties will be determined based on further consultation with the Tribes. The DEIR/S indicates that properties within historic districts that will be impacted by noise and vibration will be further evaluated in the FEIR. The project will have direct and indirect, as well as temporary and permanent, impacts on above-ground historic resources. Impacts evaluated in the DEIR/S include noise and vibration, traffic, visual, physical modifications, and air quality.

Based on the analysis in the DEIR/S, traffic and air quality impacts to historic and archaeological resources are expected to be minor. Temporary vibration impacts during construction may result in vibration levels that could cause structural damage in the vicinity of certain bridges. The DEIR/S evaluates project elements that may cause permanent impacts to viewsheds including catenary and other electrification infrastructure, vegetation clearing, grade crossings and traffic controls, noise walls, parking lots, and new building construction.

The DEIR/S identifies historic properties impacted by each alternative and describes those potentially eligible for National Register listing. The Southern Triangle affects 32 areas/districts and 214 individual properties of which 14 and 17 respectively are listed in National Register (NR) or considered eligible (8 areas/districts and 26 individual properties in the Southern Triangle are considered ineligible for NR listing. The Stoughton/Whittenton route affects 34 areas/districts and 267 individual properties of which 4 and 16 respectively are listed as NR eligible (16 areas/districts and 12 individual properties are not NR eligible). The Rapid Bus affects 2 historic area/districts and the Attleboro alternative affects 22 historic areas/districts as well as 221 individual properties within districts. The DEIR/S indicates that changes to infrastructure and the introduction of new structures along the Stoughton Line will have indirect visual effects on the H.H. Richardson Historic District. The design of project station and parking/drop-off areas will introduce new modern rail elements that will have a visual adverse effect on Ames Shovel Shop and North Easton station. DEIR also identifies historic properties that would experience moderate to severe noise impacts

The DEIR/S recommends an intensive survey for areas/districts and individual resources that have been identified as potentially eligible for inclusion in the National Register. The DEIR/S recommends additional survey work to inform consultation between the Corps and the Massachusetts Historical Commission (MHC) on the NR eligibility of resources and



determinations of effect on resources. Work is proposed prior to completion of environmental review and when more detailed design information is available. The methodology will include additional background research and field survey to analyze the integrity, historical context, and significance criteria met for each resource.

The DEIR/S includes a summary of the archaeologically sensitivity of the APE. Some locations contain moderate and high sensitivity areas for potentially significant pre-contact sites and documented/recorded post-contact areas. The Hockomock and Pine Swamps include sensitive terraces for pre-contact sites that may be traditional cultural places for Wampanoag Tribe of Gay Head/Aquinnah. High sensitivity areas in the Southern Triangle include Whale's Tooth Station, Wamsutta Layover facility, and historic cemeteries on the New Bedford Main Line. Proposed station sites in Easton North Easton and Taunton Depot are identified as moderate to high sensitivity. The DEIR/S indicates that the Corps will be addressing traditional cultural properties in a separate document pursuant to Section 106 of the National Historic Preservation Act. Additional archaeological studies will be completed prior to the FEIR.

The Stoughton Electric Alternative would result in direct impacts (adverse effects) to six historic properties, primarily historic bridges that would require reconstruction or widening, and potential direct impacts at some existing stations that would need to be reconstructed. In addition, this alternative would have indirect effects to an additional 62 properties as a result of changes in setting and/or increased noise that could affect the setting directly or require noise mitigation that could affect the appearance or setting of a building. It could affect two known archaeological sites for reconstruction of the Fall River Secondary. Archaeological resources could potentially be affected at other areas of archaeological sensitivity along the Stoughton Line, and at three station locations. The DEIR/S discusses potential mitigation strategies and measures to avoid and minimize impacts during construction and noted that additional detailed plans will be provided in the FEIR.

### Noise and Vibration

The DEIR/S includes an analysis of noise and vibration impacts associated with the project alternatives. The Federal Transit Authority (FTA) Noise and Vibration Impact Assessment Guidelines were used to evaluate existing conditions and assess potential impacts of the project. The DEIR/S describes the methodology for the study and the land use categories and metrics for evaluating transit-related impacts, as well as including information on background noise levels and monitoring locations. The analysis assumed that horns would be sounded at all proposed grade crossings. Using the FTA guidelines, impacts are categorized as severe, moderate, or no impact depending on the projected increased level of exposure compared to existing noise levels.

In the Southern Triangle, common to all alternatives, electric train operations (operating train noise without horns) would result in 298 moderate and 63 severe impacts to residential receptors along the New Bedford Main line segment. Diesel train impacts are lower with estimates of 194 moderate and 38 severe impacts. Train horns along this segment will add 93 moderate and 76 severe impacts. Electric train operations for the Fall River Secondary will result in 581 moderate and 155 severe impacts to residential receptors. The majority of these occur in



Fall River, in the Cory and Durfee Street neighborhoods. Diesel operations are comparable with 570 moderate and 181 severe impacts. Train horns along this corridor will result in additional impacts of 98 moderate and 164 severe horn impacts. Electric train operations for the Stoughton line segment result in 441 moderate and 190 severe impacts to residential receptors, the majority occurring in Raynham and Easton, in the Elm Street (Easton), Bridge Street and Elm Street (Raynham) neighborhoods. Train horns along the Stoughton line segment will add 437 moderate and 457 severe impacts. Due to lower operating speeds, the diesel alternative has lower noise levels and will result in 335 moderate and 128 severe impacts. The Whittenton alternative has greater noise impacts to residents compared with Stoughton as a portion of the route diverts and affects additional receptors in Easton and Taunton. The Whittenton Electric train results in 530 moderate and 199 severe noise impacts as well as 828 moderate horn impacts and 1,082 severe horn noise impacts. This alternative has 12 at-grade crossings within a short distance in Taunton, hence the additional noise impacts. The Whittenton diesel train results in 492 moderate and 151 severe impacts in addition to the horn impacts. The Rapid Bus operations are not expected to result in any noticeable increase in noise levels for residential receptors.

The DEIR/S estimates noise impacts to residential receptors in the vicinity of the layover sites. One moderate impact to a receptor near the Weavers Cove East site is projected and no noticeable impacts to receptors near the other layover sites. Temporary construction noise impacts are also expected and control measures will be developed with noise guidelines incorporated into construction documents. The DEIR/S discusses potential noise mitigation measures in general for the train operational impacts. Additional evaluation is required for the FEIR as outlined in the Scope below.

The DEIR/S includes information on the vibration measurements conducted to evaluate existing conditions. Projected vibration levels are compared to FTA criteria which indicate that 80 Velocity level in decibel units (VdB) is a level at which human annoyance is experienced for residential receptors exposed to infrequent events (less than 30 per day). The criteria are lower for more frequent events. The DEIR/S indicates that most of the vibration impacts are in the 80-83 VdB range. For receptors closer to the tracks, levels are in the 85-89 Vdb range. The DEIR/S provides the FTA criteria indicating that 90 VdB typically elicits human response of difficulty with tasks such as reading a computer screen and 100 Vdb is the level at which minor cosmetic damage to fragile buildings may occur. The vibration assessment of the track switches indicates that one location has a receptor located within 225 feet of a switch that would result in a vibration impact of 80 VdB (residential receptor on Ingall Street near Weir Junction). At the Weaver Cove site, two residential receptors are located within 100 feet of the proposed track switches and one within 225 feet. At the New Bedford Church Street site, two residential receptors are located within 225 feet of the mainline switch.

The DEIR/S includes the results of the vibration impact assessment indicating that 95 residences will be impacted by vibration associated with the project in the southern triangle section of the corridor. North of the Southern Triangle, for the Stoughton line portion of the route, the DEIR/S estimates that 51 receptors will be impacted by vibration levels of 80 VdB or higher. One receptor is a multi-unit apartment building and the others are single-family homes. The residences are located in Stoughton (12), Raynham (13), Easton (17), and Taunton (9). The DEIR/S concludes that station and other historic buildings in Easton Village would experience



impacts below the 100 VdB vibration threshold for the onset of minor structural damage to fragile and historic buildings. The Whittenton route results in similar impacts to the Stoughton direct, and the Attleboro has less vibration impacts overall. The Rapid Bus is not projected to have any noticeable vibration impacts. Additional information on vibration impacts and mitigation should be included in the FEIR as outlined in the Scope below.

#### Stormwater

The DEIR/S discusses the potential direct and indirect effects on water resources from each of the South Coast Rail project alternatives, and identifies areas where stormwater management systems will be required. The DEIR/S concludes that with mitigation and drainage features in place, none of the Build Alternatives are expected to impair any water resources. The proposed Stoughton alternative will result in 14.4 acres of new impervious area and includes stormwater discharges to two ACEC/ORW waterbodies and nine non-ORW waterbodies, as well as six discharges to Zone II water protection areas and two discharges in Interim Wellhead Protection Areas (IWPA). Additional details on stormwater management should be included in the FEIR as outlined in the Scope below.

#### Farmland Soils

The DEIR/S indicates that the project would not result in significant impact to agricultural lands or convert land from active agriculture to non-agricultural use. The conclusion is based on an evaluation using the U.S. Department of Agriculture (USDA) scoring system and the fact that impacted farmland soils are not currently in active agricultural use. The Stoughton Electric route will impact approximately 13 acres of mapped farmland soils primarily associated with the development of the North Easton and Freetown stations, and traction power sites.

#### Oil and Hazardous Materials (OHM)

The DEIR/S provides a summary of each of the proposed alternatives in the context of potential OHM conditions in locations that may be affected by the South Coast Rail alternatives. The DEIR/S describes environmental site assessments conducted along sections of the project alignment as well as at layover and station sites. The DEIR/S describes the methodology and results including specific areas of environmental concern due to historic contamination. The DEIR/S also discusses management of contaminated soils and impacted groundwater in accordance with the Massachusetts Contingency Plan (MCP). The DEIR/S includes recommendations for further investigations and mitigation measures to be performed prior to and during construction of proposed stations, track segments, and layovers.

#### Station Sites

The proposed Stoughton route includes ten new stations from the existing Stoughton station south to New Bedford and Fall River. Two existing stations, Canton Center and Stoughton will require modifications for the preferred Stoughton route. Proposed new stations consist of high-level platforms (4 feet above track), canopies, commuter parking, a pick-up and drop-off area for buses, and drop-off parking. Platforms will be designed to handle a 9-car train



set (800 feet long approximately). The station designs includes bike storage areas and pedestrian connections to neighboring streets. The Transit Oriented Development (TOD) aspect of the proposed stations will include residential and commercial development.

The proposed Battleship Cove station in Fall River includes a single track and one side platform. This station will not have designated parking, it will allow for pick-up and drop-off only with a driveway access off Water Street. The paved loop driveway will accommodate three 40-foot buses as well as passenger vehicles for pick-up and drop-off. Pedestrian connection improvements to Fall River's central block are proposed which would improve access to Southeastern Regional Transit Authority (SRTA) Route 6 bus and the Route 7 bus will be extended to the station.

The Canton Center station is an existing station off Washington Street that will be modified for a second track. Two new 800-foot long low-level platforms with mini-high platforms are proposed adjacent to each track. Modifications to existing parking will be required and the existing 210 parking spaces would remain. There is no designated area proposed for bus of vehicular drop-off. A walkway is proposed from the platforms to existing sidewalks on Washington Street.

The new Taunton Depot station will be located off Route 140 at the rear of a shopping plaza and serve walk-in, drive-in and drop-off passengers. A total of 456 parking spaces are proposed. The driveway access will be through the existing Target Plaza with a new driveway behind Target to the new station parking area. The new driveway will accommodate two 40-foot buses. A sidewalk is proposed to connect with the existing sidewalk on Taunton Depot Drive. No feeder bus connection is proposed for this station. One center platform is proposed with a pedestrian bridge over the tracks with stairs and ramps. Triple tracks are proposed (two for commuter rail and one for freight).

The Easton Village Station is proposed immediately south of the historic H.H. Richardson train station on Sullivan Street in Easton. The location is within walking distance of downtown Easton and will serve walk-in and bike-in customers. The DEIR/S proposes using ten of the existing spaces at the historic train station for drop-off and pick-up. The driveway access for the proposed new station is from Sullivan Street and Oliver Street. No bus accommodation is proposed. One side platform and a single track is proposed. Pedestrian access is proposed via ramps connecting to an existing sidewalk on Oliver Street and an existing underpass (under the tracks) to connect with an existing sidewalk on the west side of Sullivan Street. A shuttle bus is proposed for Stonehill College and an extension of the Brockton Area Transit (BAT) Route 9.

The Fall River Depot Station will be located one mile north of downtown Fall River at Route 79 and Davol Street and is the site of an historic train station. A parking deck is proposed to limit surface parking and allow space for future TOD. The station will serve walk-in, bike-in, and drive-in customers. 513 parking spaces are proposed. The driveway access will be off Davol Street and will accommodate up to four 40-foot buses and 10 vehicles for passenger drop-off. One side platform and double track is proposed. Sidewalks will be installed throughout the site and along the frontage of Davol, Pearce, and Turner Streets connecting to existing sidewalks in



the vicinity of the stations. Pedestrian connections will provide access to SRTA Route 2. SRTA Route 14 will be re-routed to access the station.

The proposed Freetown station will be located on South Main Street. The site includes a self-storage business and is near the Fall River Executive Park and the proposed River Front Park. The station will serve drive-in customers and customers shuttled between the station and industrial parks. 174 parking spaces are proposed. The driveway access will be off South Main Street and will handle two 40-foot buses and 8 passenger drop-off vehicles. One side platform and a double track is proposed. Sidewalks are proposed out to South Main Street for future pedestrian connections. The existing SRTA Route 2 will be extended one mile to the proposed station.

The proposed King's Highway Station will be located in northern New Bedford along King's Highway, immediately east of Route 140. The station is located on the site of an existing shopping plaza and will serve walk-in, bike-in and drive-in passengers. 360 parking spaces are proposed. Parking will be shared with an existing movie theater. Access will be from the King's Highway through the existing commercial development to a shared parking area and bus drop-off, which will accommodate two 40-foot buses and 10 drop-off vehicle parking spaces. One side platform and a double track are proposed. Ramps will be installed to connect with sidewalks that will be extended to connect with existing sidewalks. The existing SRTA Route 8 bus and North End shuttle will be extended to connect to the station.

The proposed North Easton station will be located at the rear of the existing Roche Brothers plaza off Route 138. The station will serve primarily drive-in customers although it may attract walk-in customers also from existing and proposed new development on the site as well as nearby residences. 509 parking spaces are proposed and an access driveway from Roche's Brothers Way that will accommodate two 40-foot buses and 10 vehicular drop-off parking spaces. A center platform with pedestrian bridge is proposed as well as a double track and a sidewalk to connect with the existing sidewalk along Roche Bros. Way. No feeder bus connections are proposed for this station.

The proposed Raynham Place Station will be located at the Raynham-Taunton Greyhound Park off Route 138. The site is proposed for future TOD and will serve walk-in, bike-in, and drive-in customers. 448 parking spaces are proposed. Access to the parking area and bus drop-off will be from Route 138 through the existing development complex. The access driveway will accommodate two 40-foot buses and 7 drop-off vehicle parking spaces. One center platform with a pedestrian bridge is proposed as well as double-track. Walkways will be installed around the exterior of the parking facilities for future walkway connections. No feeder bus service is proposed at this location.

The existing Stoughton station is located off Route 138 and is proposed for modification to accommodate a second track. The station will be relocated from its present position between Wyman and Porter Streets to a new location south of the Wyman Street at-grade crossing. Two new platforms are proposed adjacent to each track, which will require changes to the existing parking layout. Approximately 185 existing parking spaces will be relocated and loss of 28 spaces is proposed. Approximately 350 spaces will remain undisturbed, for a total of 507 parking



spaces. Driveway access is proposed from Washington Street, Wyman Street, Porter Street and Canton Street. No accommodations for bus riders are proposed. Nine vehicular drop-off spaces are proposed. Two side platforms and a double track are proposed. Sidewalks will be constructed to connect with existing sidewalks allowing pedestrians to use the existing at-grade pedestrian crossing at Wyman Street.

The proposed Taunton –Dean Street Station will be located along Arlington Street near Dean Street (Route 44) adjacent to an historic train station. The City of Taunton has begun brownfields remediation of the proposed site in anticipation of the train station. The site is within walking distance of downtown Taunton and is proposed for use as a TOD site and will serve walk-in, walk-in, and drive-in customers. 201 parking spaces are proposed. The driveway access is proposed from Arlington Street and will accommodate two 40-foot buses and 8 vehicle drop-off spaces. One side platform with a single track and freight siding is proposed. Walkways are proposed to connect the platform and access driveway to Arlington Street for future pedestrian connection. The existing Greater Attleboro Taunton Regional Transit Authority (GATRA) Route 7 bus will be re-routed to access the station and Routes 6 and 18 will be rerouted for better transfer access at Taunton Green.

The Whales Tooth station will be located on Acushnet Avenue at the existing Whales Tooth parking lot, constructed by the City in anticipation of the project. The station will include intermodal connections, buses, and potentially ferry services. The site will serve walk-in, bike-in and drive-in customers. 694 parking spaces are proposed. Driveway access is off Acushnet Avenue and the proposed bus drop-off area will accommodate two 40-foot buses and spaces for passenger pick-up and drop-off. One side platform and a single track are proposed. Ramps and stairs will be installed to connect with existing sidewalks adjacent to the parking facility. The SRTA Routes 1, 3 and 11 will be extended to connect with the station and pedestrian connections to the station will be improved.

MassDOT is also planning an expansion at South Station independent of the South Coast Rail project, which involves the addition of seven new tracks (included in the no-build/enhanced bus baseline analysis).

### Layover Facilities

The DEIR/S provided information on five alternative layover sites, including graphics showing wetland resources, preliminary information on tidelands, and potential impacts to environmental justice communities and cultural resources. Conceptual plans for layover facilities have not yet been developed to the same level of detail as those for the stations. As noted in the Scope below, information and analysis should be further developed in the FEIR.

### Monitoring and Evaluation

A draft long-term monitoring and evaluation plan was not presented in the DEIR/S which indicates it will be provided in the FEIR. Further guidance is provided in the Scope below.



Mitigation, Permitting and Section 61 findings

The DEIR/S identifies potential mitigation measures for various impacts including traffic, noise, vibration, visual, and cultural impacts as well as impacts to wetlands and state-listed species. Some specific measures such as noise walls and ballast mats for vibration reduction are proposed as well as more conceptual measures such as a watershed approach to wetlands mitigation. As further detailed in the Scope below, detailed mitigation plans for the preferred alternative are required in the FEIR.

**SCOPE**General

MassDOT should prepare a FEIR in accordance with the general guidance for outline and content found in Section 11.07 of the MEPA regulations as modified by this Scope. The FEIR should include maps, plans and other graphics at a reasonable scale to facilitate review and comment. The FEIR should include a list of permits and approvals required, an update on any changes since the filing of the DEIR/S, and a copy of this Certificate.

L-088.01

Wetlands and Biodiversity

The project will require several variances from the Wetlands regulations performance standards. One of the three criteria for a variance is a demonstration that the variance is necessary to accommodate an overriding public interest. The FEIR should further refine how the proposed Stoughton Electric rail will advance the public interests identified in the DEIR/S, which include: the need for public transportation from the south coast region to Boston and benefits to the south coast region in terms of public transit equity, service distribution and ridership, air quality and climate change improvements, and opportunities for smart growth and sustainable development as an alternative to sprawl.

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To demonstrate eligibility for a variance MassDOT must also propose mitigation measures that will allow the project to be conditioned to contribute to Wetland Protection Act interests. Mitigation measures will be required to off-set the project's direct, indirect, and cumulative impacts. The FEIR should describe specific mitigation measures that will directly mitigate wetlands impacts, improve wetland conditions and avoid future indirect and cumulative impacts.

L-088.03

The FEIR should document any revisions to wetland boundaries and project-related impacts based on more detailed field delineations for the proposed Stoughton route, and boundaries as approved by local Conservation Commissions. The FEIR should quantify temporary as well as permanent wetlands impacts, for individual project components and cumulatively for the entire project (including stations and layover facilities). Direct and indirect wetlands impacts related to canopy clearance should be further evaluated in the FEIR. Some tables in the DEIR/S reference total "wetlands" impacts but do not include all resource impacts or temporary impacts. In discussing and summarizing wetlands impacts, the FEIR should clarify

L-088.04



(in table headings for example) whether the reference is to Bordering Vegetated Wetlands (BVW) and ORW only or to the total amount of project-related wetland impacts, and whether it is referring to permanent, temporary or both combined. Where there are differences in categorization under state and federal regulations, the FEIR should clarify and differentiate as appropriate. The FEIR should include a summary table with a breakdown of all wetland resource impacts (including BVW, Bank, Riverfront Area, and BLSF) for the entire project (rail, stations/layovers, roadway improvements, and other components) so that the individual resource impacts and the cumulative totals are summarized in one place. Temporary and indirect impacts should be included in the summary of wetlands impacts, as well as direct and permanent impacts.

L-088.04

The FEIR should include information on the location and volume of Bordering Land Subject to Flooding (BLSF) that will be impacted by the project and details on proposed compensatory flood storage mitigation. The WPA requires that compensatory storage be provided at or near the points of impact. MassDEP has indicated that flexibility exists to consolidate mitigation for some resource impacts into more centralized areas within the watershed rather than individual mitigation sites at each mitigation location. But this approach does not necessarily apply to BLSF. The FEIR should include detailed plans for BLSF mitigation and demonstrate how proposed mitigation will meet WPA requirements. The FEIR should quantify the total area of Riverfront Area impacted by the project, provide a breakdown of impacts at specific locations, describe how work proposed in riverfront will meet applicable performance standards, and provide details of mitigation plans for riverfront impacts.

L-088.05

The DEIR/S indicates that vernal pool impact assessment is based on data from surveys within 100 feet of the center of the ROW. As discussed at meetings of the Interagency Coordinating Group (ICG), vernal pools within 100 feet of the edge of the limit of work should be included in the assessment of impacts as well as vernal pools further away from the ROW. The ICG agreed (meeting minutes 4/16/2009) that the direct impacts will include loss of upland habitat where the limit of work is either 600/750 from a vernal pool (biodiversity impacts); potential impacts to vernal pool habitat if the limit of work is within 100 feet of the edge of the vernal pool wetland; and impacts to vernal pools if the work is within a wetland containing a vernal pool. The FEIR should update the vernal pool impact assessment for the Stoughton route to clarify vernal pool and vernal pool habitat impacts, as agreed by ICG, and to inform the proposed mitigation plan. The FEIR should include the results of additional field work or other data gathering needed to complete the assessment. MassDOT should consult with the NHESP about survey methods prior to initiating additional vernal pool surveys. The FEIR should describe how impacts to vernal pools and vernal pool habitat will be avoided, minimized, or mitigated, and include detailed mitigation plans to compensate for adverse impacts. The FEIR should also discuss potential measures to eliminate existing All Terrain Vehicle (ATV) impacts on vernal pools. The FEIR should include a draft Vegetation Management Plan and identify no-spray zones for protection of rare species and other wildlife.

L-088.06

The FEIR should expand upon the analysis of wetlands functions and values in the DEIR/S to include a more detailed analysis for the proposed Stoughton rail. The FEIR should include narrative descriptions of wetlands functions and values of each wetland impacted directly and indirectly by the proposed project. The mitigation plan should describe how the lost functions and values will be mitigated.

L-088.07



The FEIR should include a detailed evaluation of potential mitigation measures to improve habitat connectivity by methods such as wildlife passage structures through the rail bed and improvements to stream crossings to facilitate passage of fish and wildlife designed so as not to compromise the hydrology of wetlands on either side of the rail bed. Potential rail bed modifications should be evaluated using the CAPS methodology to determine those potential modifications that would result in the most improvement in connectivity and wetland condition. The evaluation of opportunities for connectivity improvement measures should be conducted along the entire rail alignment. The FEIR should evaluate opportunities to enhance wetlands near the Raynham Dog Track on the west side of the alignment as well as potential “undevelopment” and restoration of portions of the dog track site. The FEIR should identify measures that MassDOT is committed to implement.

L-088.08

Additional Scope requirements related to stream crossings, trestle design and mitigation are outlined below. The analysis and design plans required should be at a sufficient level of detail to allow permitting agencies and other reviewers to fully understand the type and extent of environmental impacts, and to provide sufficient information for the detailed mitigation plan that will be included in the FEIR. If some of the information cannot be provided in the FEIR due to the level of design detail required, MassDOT should explain why this is the case, include a schedule for development of the information, and MassDOT’s best estimate of project impacts based on the information and analysis prepared for the FEIR. MassDOT should consult with the Interagency Coordinating Group during FEIR preparation to discuss any aspects of the required analysis for which information may not be complete, and to obtain input from the group on the appropriate level of detail to include in the FEIR.

L-088.09

### *Stream Crossings*

The FEIR should include details on the existing conditions at stream crossings, explain where culverts will be replaced or modified. The FEIR should include designs for proposed culverts, bridges, or other alterations at stream crossings and evaluate potential direct and indirect hydrological changes, including those that may impact adjoining wetlands. Any new culverts should be designed so as not to compromise the hydrology of wetlands on either side of the crossing. The analysis should address all stream crossings where work is proposed, including the Southern Triangle. Mitigation should be proposed for any unavoidable impacts. The FEIR should include detailed plans for the proposed relocation of the stream that runs along the former railroad berm near the Raynham Dog Track. The FEIR should assess the environmental impacts and benefits of the proposed relocation, including identification of any additional wetlands impacts associated with stream relocation within the Hockomock Swamp or potential Article 97 land impacts.

L-088.10

The FEIR should identify the locations for proposed culvert replacement and for new culverts and discuss in detail the proposed project’s consistency with Massachusetts River and Stream Crossing Standards. As noted in MassDEP’s comment letter, compliance with Stream Crossing Standards is fully required for new culverts reviewed pursuant to the WPA and 401 regulations. The FEIR analysis should include an evaluation of culvert extension impacts to fish, amphibians, reptiles, and other wildlife passage. The FEIR should evaluate opportunities for

L-088.11



maximizing hydrological connections between wetlands for enhancement and restoration as well as for flood capacity. L-088.11

The FEIR should include an analysis of spans and open bottom arches to meet the Stream Crossing Standards, and consider such arches as mitigation measures throughout the entire rail alignment to the extent they are practicable to improve fish and wildlife passage, and do not interfere with safe train operations. Any closed bottom arch design should include an analysis of measures to install and maintain the stone that requires embedding at a depth of at least two feet. I refer MassDOT to the comments from MassDEP for additional guidance on stream crossing design. L-088.12

#### *Trestle Design and ROW Access*

The FEIR should evaluate the engineering feasibility of constructing the proposed trestle in wetland soils and evaluate the feasibility of constructing a trestle through the Pine Swamp also. The FEIR should also discuss how access will be achieved for any maintenance or emergency situation along portions of the rail ROW, including sections of the rail located in the Hockomock and Pine Swamps. L-088.13

#### *Mitigation*

The FEIR should identify targeted lands for acquisition by MassDOT as mitigation for the cumulative and indirect impacts of the project. The analysis of secondary impacts and smart growth measures in the DEIR/S concludes that aggressive implementation of smart growth can reduce habitat impacts by almost 50 percent compared to the build without mitigation scenario. Cumulative and indirect impacts of the project are estimated at 250 acres of habitat loss that includes loss of high quality wetlands, rare species habitat, and biodiversity. A variance from the WPA regulations is required for the project's impacts to rare species. One concrete way for MassDOT to translate its smart growth planning into resource protection is to fund for conservation-protected targeted acquisition of parcels in Priority Protection Areas (PPAs) that are important to meet the long-term net benefit to rare species and preserve land with a high Index of Ecological Integrity (IEI). The CAPS analysis should be applied to potential mitigation sites to determine IEI scores. The selection of high IEI properties should consider properties that will not be adversely affected by direct or indirect impacts of the project, which would reduce IEI scores after construction. The FEIR should identify targeted sites for acquisition and describe in detail how the proposed land acquisition will offset direct and indirect impacts of the project, and further the smart growth aspects of the Corridor Plan. L-088.14

Implementation of the smart growth Corridor Plan has the potential to mitigate environmental impacts and advance environmental preservation along the project corridor. The Corridor Plan presents an opportunity for an integrated approach to advance environmental protection strategies with land use planning that 1) optimizes economic and housing development, 2) contains sprawl, and 3) protects the integrity of critical natural resource habitats. The FEIR should include an analysis of how land acquisition can be optimized to accomplish these three goals. MassDOT should consult with EEA agencies to identify and protect areas critical to preserving the integrity of existing and valuable ecosystems. MassDOT should also L-088.15



partner with local Conservation Commissions and Planning Boards, regional planning agencies, and non-profit land trust/conservation organizations in a coordinated effort to adopt land preservation strategies that will stem wetland habitat fragmentation commonly associated with sprawl due to unconstrained development. The FEIR should clearly identify MassDOT's commitments to acquire land that meets the project's mitigation requirements and longer-term smart growth goals.

L-088.15

The FEIR mitigation plan should include the following:

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- a 2:1 ratio for BVW mitigation (at a minimum), at least 1:1 for all other wetlands. Where the Corps requires higher ratios (e.g. for forested wetlands), the mitigation plan should reflect the federal requirements also;
- at least a 2:1 mitigation of rare species impacts subject to consultation with NHESP. In some areas mitigation requirements may be considerably higher—because this is a linear project that results in habitat fragmentation and may have disproportionate impacts on some species.
- specific locations and design details for wildlife crossings;
- an evaluation of the feasibility of removing targeted portions of the existing rail bed that will not be used for the new rail line and evaluation of potential ecological benefits of railbed modification using the CAPS analysis. The mitigation plan should include a proposal for removal of portions that can be performed without adversely affecting adjacent wetland resources, including sensitive wetlands on either side of the berm. Mitigation plans should focus specifically on locations that would improve wildlife habitat and fish passage, increase connectivity, and reduce fragmentation (for example, at locations within the Hockomock Swamp where a trestle will replace the existing bed);
- an evaluation of potential for restoration/preservation of Atlantic White Cedar (*Chamaecyparis thyoides*) wetlands
- topographic information and proposed improvements to existing stream crossings at site-specific locations to improve wildlife and fish passage;
- meaningful Riverfront Area improvements and/or restoration to mitigate for riverfront impacts;
- on-site elevation-specific compensatory storage for lost flood storage, or if such compensatory storage cannot be provided, demonstrate an insignificant increase in flooding, demonstrate that any incremental increase in flooding could be contained on the Proponent's property, or acquire flood easements;
- Acquisition of land to meet the goals of advancing smart growth, providing long-term net benefit to rare species, and preserving high IEI land;
- Commitment to specific actions to implement the Corridor Plan and to work with communities to implement smart growth; and
- Wetland restoration within the Hockomock ACEC.

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The FEIR should document with a high level of assurance that land identified for preservation, restriction, or replication/restoration to be taken by eminent domain can actually be acquired and will satisfy mitigation goals. As part of the assurances, additional mitigation areas should be identified as fall-back options in the event the primary mitigation goals are not achieved.

L-088.28



MassDOT should consult with the Interagency Coordinating Group (ICG) for input on a draft mitigation plan including the methodology to identify appropriate mitigation for fragmentation impacts and the analysis of mitigation opportunities in the context of fulfilling mitigation objectives. MassDOT should expand its outreach efforts during FEIR preparation to obtain public input on draft mitigation plans. L-088.82

The draft mitigation plan presented in the FEIR should clearly identify the impacts to be mitigated, for example specific resources, functions and values, amounts and types of impacts etc. The plan should describe specific mitigation objectives and include an evaluation of mitigation options to determine which sites and mitigation measures perform best overall in terms of fulfilling mitigation objectives. L-088.29

### Endangered Species

MassDOT should consult with NHESP about the methodology to be used prior to any additional habitat analysis and to discuss metrics to be used in the FEIR for assessing impacts to state listed species and their habitat. MassDOT should also consult with NHESP regarding the assumptions related to vegetation cover that were used in the DEIR/S (Table 4.15-9). The analysis of impacts for the Stoughton route should be revised in the FEIR to reflect the full range of vegetation cover types that each state-listed species requires, as recommended by NHESP. L-088.30

The FEIR should include a detailed quantification of impacts to state-listed species, vernal pool habitat, general wildlife, and state-owned open space, and a detailed plan for minimization and mitigation of impacts. The FEIR should include a comprehensive description of how MassDOT proposes to meet MESA regulatory requirements, including the standards for authorizing a take of a state-listed species through a Conservation and Management Permit. The FEIR should include detailed descriptions and discussion of rare species and wildlife crossing and barrier design (for example, culverts and bridges) as well as other minimization measures, such as construction management to minimize turtle and salamander mortality. The FEIR should explain in detail how the project will meet the long-term "net benefit" standard in 321 CMR 10.23 including detailed mitigation plans that should be developed in consultation with NHESP. These mitigation plans should be at a very specific level of detail to demonstrate clearly that appropriate and effective mitigation will be implemented. The FEIR should also include a detailed plan for mitigation of vernal pool impacts, general wildlife impacts, and impacts to state-owned open space. L-088.31

The DEIR/S indicates there would be no impacts to species migration in areas of existing rail lines. However, the FEIR should include an evaluation of any potential impacts to migration associated with widening of the existing tracks and ROW. L-088.32

### Fisheries

The DEIR/S identifies 34 river and stream crossings on the New Bedford main line and the Fall River Secondary, and 64 on the Stoughton line (on the abandoned railroad ROW). I refer MassDOT to NEHSP's comment letter which includes a list of species and fisheries survey results for rivers and streams in the project area. The FEIR should evaluate potential impacts of L-088.33



the proposed project to fishery resources, considering issues such as water quality, flow changes in siltation, water level fluctuations, loss of riparian habitat and alterations of the temperature regime. As noted in NHESP's letter, stocked trout waters are highly susceptible to changes in water quality and/or quantity. The FEIR should explain how the project will be designed to avoid any adverse impacts to streams and rivers that support stocked trout. The FEIR should describe Best Management Practices (BMPs) that will be implemented for erosion and sedimentation control and propose time of year restrictions as appropriate to avoid and minimize impacts.

L-088.33

The Division of Marine Fisheries included a list of Time of Year (TOY) restrictions for specific species in rivers and streams affected by the project. These restrictions are based on the recently released recommended TOY restrictions for coastal alteration projects to protect marine fisheries resources in Massachusetts. The FEIR should clarify commitments to TOY restrictions or demonstrate that they may not be required if construction is located outside the area used by diadromous species or uses methods that will not affect fish passage or use of spawning riffles. MassDOT should consult with the Division of Marine Fisheries to obtain the new maps of fish passage and spawning locations that are under development.

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#### Biodiversity

In addition to the biodiversity analysis required above relating to wetlands, endangered species, and fisheries, the FEIR should include the results of breeding bird surveys and other studies conducted to refine the wildlife impact assessment and mitigation plans. The mitigation plan should include time of year (toy) restrictions to protect migratory birds, which are protected under the National Migratory Bird Treaty.

L-088.35

The FEIR should include a summary of the CAPS analysis of ecological integrity impacts associated with the proposed project and the results of additional analysis on the potential improvements in the Index of Ecological Integrity (IEI) as a result of proposed mitigation measures. The mitigation plans should describe MassDOT's commitments to specific enhancements in the Hockomock Swamp and other areas along the rail alignment, as well as commitments to biodiversity protection through land acquisition and conservation.

L-088.36

#### Open Space and Conservation Lands

##### *Hockomock Swamp Wildlife Management Area (WMA)*

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The proposed Stoughton route uses an inactive railroad Right-of-Way that crosses through the Hockomock Swamp WMA. The FEIR should include a detailed analysis of the project's potential impacts to open space within the Hockomock Swamp, including any impacts relating to infrastructure, such as access roads, for construction or ongoing maintenance of the trestle and railbed ROW. The FEIR should include a detailed plan to avoid and minimize impacts and/or to mitigate unavoidable impacts to open space. The FEIR should clarify whether proposed work falls within the existing ROW or to what degree it will extend beyond it.



*Taunton Wild and Scenic River*

The FEIR should include an update on consultations with the National Park Service regarding the status of Taunton River as a National Wild and Scenic River, and to discuss issues relating to water quality impacts from construction and stormwater runoff, rail line crossings of the Taunton and its tributaries, impacts to natural and cultural landscape features, selection and siting of layover facilities, and construction of the Fall River Depot station. The FEIR should describe impacts to Riverfront Area from the proposed layover facility in Fall River and discuss other possible sites outside of Riverfront Area as recommended by the Department of Interior in its comment letter.

L-088.38

*Acushnet Cedar Swamp National Natural Landmark*

The FEIR should describe proposed measures to avoid and minimize construction and train operational noise impacts during critical wildlife breeding season in spring and early summer. The FEIR should also assess barrier effects to wildlife movement in the Acushnet Cedar Swamp and propose scheduling and/or other measures to minimize impacts to wildlife movement during project construction and operation.

L-088.39

The FEIR should evaluate the potential for a hydrological connection between the Acushnet Cedar Swamp and the Church Street Layover facility site. The FEIR should clarify whether or not there is a connection, discuss the potential for runoff impacts to the Swamp, and describe proposed mitigation measures.

L-088.40

*Article 97 and other Open Space*

The open space impact estimates presented in the DEIR/S summary tables are limited to Article 97 land and are not representative of the full range of potential impacts to open space. The FEIR should quantify all open space impacted by the project and describe mitigation commitments. The FEIR should expand upon the evaluation in the DEIR/S to demonstrate consistency with the EEA Article 97 Land Disposition Policy. MassDOT should consult with the Department of Conservation and Recreation during FEIR preparation to discuss policy requirements and a land disposition agreement.

L-088.41

Layover Facilities

The FEIR should expand on the analysis of the proposed layover facilities with detailed plans for the layover facilities and a comparative analysis of environmental impacts with a summary table showing land alteration, impervious area, wetland and water quality impacts, traffic impacts, air quality, noise and vibration, impacts to conservation lands/open space, and impacts to Environmental Justice populations. The alternatives analysis should include consideration of potential sites outside of Riverfront Area. The FEIR should identify permits required for layover facilities and document how the proposed facilities will comply with applicable regulatory requirements. Consistency with Chapter 91 licensing requirements and requirements for location within a Designated Port Area (DPA) should be described as applicable. The FEIR should clarify whether any facility located in a DPA can be allowed as a

L-088.42



temporary and/or supporting DPA use. The FEIR should clarify, and depict on figures/plans, any filled or flowed tidelands on or near the proposed layover facilities. Where applicable, information to support a Public Benefit Determination should be included. L-088.42

Proposed layover facilities contain resource areas including scrub shrub swamp and wooded swamp. The DEIR/S information should be supplemented with additional details on wetlands protection and stormwater management for the proposed sites. The FEIR should describe MassDOT's commitment to measures that will avoid and minimize impacts and/or mitigate for any unavoidable impacts. The FEIR should include a rationale for selection of the preferred layover facilities and for elimination of others from further consideration. The evaluation of impacts associated with layovers should include potential conflicts and synergies with existing and future land use on and in the vicinity of the sites. L-088.43

The DEIR/S indicates that the Weavers Cove East layover facility in New Bedford would substantially affect the visual environment for nearby residents and passers-by on the Taunton River. Similarly, the ISP layover facility would substantially impact the visual environment at its location, which is approximately six miles from the southern terminus of the Fall River Secondary line. The FEIR should include clear commitments to specific measures to minimize or mitigate visual impacts associated with proposed layover facilities. L-088.44

#### Station sites and Transit-Oriented Design (TOD)

The FEIR should describe MassDOT's work with the City of New Bedford to develop a feeder bus system and discuss the additional benefits of the system including potential increases in ridership of the proposed South Coast Rail. The FEIR should also clarify the enhanced bus measures assumed as part of the No-Build scenario, which will be incorporated as part of the project. Several of the station designs do not include accommodations for feeder bus. The FEIR should explain this and consider measures to enhance shuttle/feeder bus service to the proposed stations. L-088.45

The FEIR should include additional information on station sites, including analysis of decked parking, Environmentally Sensitive Site Design (ESSD), and opportunities for greenhouse gas reductions as required by other sections of this Scope. The FEIR should include updated design plans for station sites with additional information on proposed Transit Oriented Development (TOD). The DEIR/S indicates that Battleship Cove Station would not operate year-round. The FEIR should clarify the operating schedule for this station. L-088.46

The FEIR should include an update on the new 2010 Journey to Work (JTW) data and include a sensitivity analysis based on comparison of the more recent data with the 2000 data used for the ridership analysis. The FEIR should update the ridership estimates as applicable to account for any significant changes in JTW trends. L-088.47

The FEIR should include additional detail on plans to support pedestrian and bicycle access. I refer the Proponent to comment letters from the Metropolitan Area Planning Council (MAPC), WalkBoston, and other commenters for their recommendations. L-088.48



Some of the station designs include additional siding for freight traffic. The FEIR should clarify whether freight currently exists at these sites or not, and if there are any changes to existing freight routes as a result of the proposed project. L-088.49

#### Stormwater

The FEIR should describe how the project will comply with the Massachusetts Stormwater Standards for work proposed in wetland resource areas and buffer zones pursuant to 310 CMR 10.05(6)(k) and 314 CMR 9.06(6), as well as other state and federal requirements (including Total Maximum Daily Load (TMDL) requirements) for stormwater discharges to existing outfalls and/or for the proposed layover facilities. The FEIR should describe measures to ensure that stormwater discharges to the Neponset River will meet the TMDL pathogen removal requirements and Total Suspended Solids (TSS) removal requirements L-088.50

The FEIR should include an assessment of the ability of the proposed project to meet the ten Massachusetts Stormwater Standards or specify if a variance to the standards specified at 310 CMR 10.05(6)(k) and 314 CMR 9.06(6) may be required. For those components of the project where complete raze of existing development is proposed, MassDOT should be fully meeting the Stormwater Standards rather than only "to the extent possible" as few constraints existing in such situations. L-088.51

The FEIR should include a detailed evaluation of Environmentally Sensitive Site Design (ESSD) and Low Impact Development (LID) practices to manage stormwater at proposed stations and parking areas, and layover facilities. The FEIR should identify the design capacity for parking at each station. Deck parking should be evaluated as an alternative to at-grade parking to minimize the project's impervious footprint and reduce the amount of land taking required. The ESSD and LID alternatives analysis in the FEIR should also include evaluation of smaller parking stalls and circulation lanes; porous pavement; pavement disconnection versus traditional curb and gutter drainage; retention of existing mature non-invasive plants; exfiltrating bioretention in place of raised traffic islands; and tree box filters. The FEIR should clearly identify the ESSD and LID measures to which the Proponent is committed to implement. For those measures not being committed to, the FEIR should include a sound rationale as to why they are not feasible. L-088.52

The FEIR should include information on stormwater peak runoff rates and whether attenuation requirements will be met. The FEIR should assess each station and layover site to determine if there is sufficient land available for attenuation structures or if any additional right-of-way purchase would be required. For those stations being upgraded, the FEIR should include an analysis and description of measures to meet stormwater standards to the Maximum Extent Practicable (MEP) and to improve existing conditions. The FEIR should include an analysis of potential stormwater impacts to critical areas including vernal pools, and how these impacts will be addressed. L-088.53

The FEIR should include details on proposed stormwater management along the proposed rail tracks. As noted in MassDEP's comment letter, the Greenbush rail line included an extensive drainage system. The FEIR should describe the proposed drainage design for the L-088.54



Stoughton rail line and demonstrate that sufficient treatment will be provided prior to any discharge of track drainage runoff to resource areas. The FEIR should include a detailed description of the proposed stormwater management system for all components of the project. I refer MassDOT to additional guidance regarding stormwater management in MassDEP's comment letter.

L-088.54

#### Coastal Zone

The proposed Whale's Tooth Station in New Bedford is located within the coastal zone. The FEIR should include measures to avoid and minimize non-point source pollution from idling trains and should describe how the station site will be designed to be compatible with existing industrial uses in the New Bedford/Fairhaven Designated Port Area (DPA). The Wamsutta layover alternative is located adjacent to the Whales' Tooth Station site and the DPA. The FEIR should address compatibility issues with regard to coastal zone protection and DPA uses as recommended by CZM.

L-088.55

The proposed stations in Fall River are located near the Mount Hope Bay DPA and the Fall River station is partially located within the coastal zone. The proposed Fall River layover sites are located within the coastal zone. In consideration of future sea level rise, the FEIR should consider a margin of safety to avoid a facility being located in a future elevated Zone A floodplain. The FEIR should address pollution prevention and LID at all station and layover sites as well as project consistency with DPA uses and the Fall River City's harbor planning goals for pedestrian reconnection to the Waterfront. The FEIR should also address nitrogen deposition in coastal embayments more explicitly, as requested by CZM in its comment letter.

L-088.56

#### Chapter 91 Licensing and Public Benefits Determination

MassDOT should consult with MassDEP and provide more detailed plans to determine whether or not the filled tidelands at Fall River Battleship Cove Station, New Bedford Whale's Tooth Station, and Wamsutta Layover facility are considered landlocked tidelands as defined at 301 CMR 9.02. The FEIR should include analysis and mitigation as applicable to support a Public Benefits Determination consistent with Chapter 168 of the Acts of 2007. The FEIR should describe any public access restrictions to the shoreline that may result from construction of layover facilities or other components of the proposed project. Mitigation plans should be included in the FEIR to compensate for any public access impacts.

L-088.57

A Mandatory Public Benefits Determination is required if the project is completely or partially located in tidelands or landlocked tidelands. The FEIR should include detailed information describing the nature of the tidelands affected and the public benefits of the proposed project in accordance with the Public Benefits Determination requirements at 301 CMR 13.00.

L-088.58

MassDEP indicates in its comment letter that the layover facilities at Weavers Cove and the ISP off North Main Street are located on filled tidelands. MassDEP has established the presumptive line of jurisdiction. MassDOT, if intending to rebut this presumption, should consult with MassDEP prior to submission of an FEIR and provide MassDEP with the

L-088.59



information outlined in its comment letter. The FEIR should include an update on consultations and jurisdictional determinations.

L-088.59

The FEIR should identify and describe all components of the project requiring Chapter 91 licensing and whether project components are considered water-dependent or non-water dependent. The FEIR should describe in detail how the project will meet licensing standards at 310 CMR 9.54 and 9.55 (for non water-dependent) and 301 CMR 9.31 – 9.40 (for water dependent). The FEIR should explain how the project is consistent with the New Bedford and Fall River Municipal Harbor Plans pursuant to 310 CMR 9.34, including for example, how intermodal connection to the ferry service would be achieved. The FEIR should explain how railroad components subject to licensing will preserve or enhance navigational capacity and maintain or enhance public access pursuant to 310 CMR 9.35 and 9.36. If navigation or public access is impacted by the project, the FEIR should include detailed mitigation plans. The FEIR should explore opportunities on or near the layover facilities where MassDOT can “take reasonable measures to provide open space for active or passive recreation at the water’s edge” pursuant to 310 CMR 9.55(2).

L-088.60

#### Air Quality and Climate

The FEIR should include an evaluation of alternative fuels for the Enhanced Bus and feeder bus services and commit to use of hybrid and/or other fuels to minimize emission of air pollutants to the maximum extent feasible.

L-088.61

The Stoughton Electric alternative, as noted in the DEIR/S review above, is the preferred alternative and provides the best overall emission reductions for VOC, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> and CO<sub>2</sub> in comparison to the other alternatives evaluated. The commitments to construction-related mitigation measures should be reiterated in the FEIR as part of comprehensive mitigation plan.

L-088.62

#### *GHG and Climate Change*

The DEIR/S did not include an analysis of stationary source GHG emissions and mitigation indicating that there would be no buildings at the stations, only platforms. However, there are other ways in which MassDOT can achieve GHG reductions, for example by using energy efficient interior and exterior parking lot lighting and use of solar photovoltaic energy. The DEIR/S indicates that the MBTA will explore renewable energy technologies at station sites; this should be evaluated in the FEIR/S. The FEIR should identify design and operational features that MassDOT will commit to implementing in order to reduce GHG emissions, including measures to promote reduction of GHG emissions associated with TOD facilities and other induced growth. MassDOT should consult with the Massachusetts Department of Energy Resources (DOER) Division of Green Communities during preparation of the FEIR for assistance in developing a joint approach to promote energy efficiency and GHG reduction in the south coast rail communities. DOER has also recommended that MassDOT consult with utility companies to explore ways that communities can avail themselves of incentives that could be used to mitigate GHG emissions related to induced growth. The FEIR should include an update on consultations and an outline of the proposed mitigation plan.

L-088.63



The project overall is expected to reduce vehicle miles travelled (VMT) and GHG reductions are expected as a result of emission rules for mobile sources and the proposed smart growth plan. As indicated in the DEIR/S, the transportation model is being updated to reflect the reallocation of induced jobs into different transportation zones for future impact analyses of induced jobs in the context of traffic and GHG emissions. The FEIR should include the results of analysis of induced growth impacts on traffic and air quality. The FEIR should describe in detail specific commitments that MassDOT will make to contribute towards VMT and related GHG reductions through the proposed feeder bus system. The FEIR should provide more detailed information on a proposed feeder/shuttle bus network with frequent and convenient local bus linkages that will enhance local and intra-regional access to the proposed stations. MassDOT should work in cooperation with the regional transit authorities to further develop this plan. The feeder bus system should accommodate riders with bikes and the stations should provide adequate bicycle racks and storage and provide space and support for other programs that allow train riders to pick up bikes at one location and drop them off elsewhere. MassDOT should design this project as a flagship for implementation of its GreenDOT program.

L-088.64

#### Noise and Vibration

The FEIR should include a detailed evaluation of those locations that will experience moderate and severe noise impacts as a result of the project and commitments to specific mitigation measures. The evaluation should address noise impacts relating to all aspects of the project including train operations and horn noise, and noise associated with stations and layover facilities.

L-088.65

The DEIR/S indicates that mitigation will be provided for severe impacts where it is cost-effective. The Proponent is required to mitigate for noise-related impacts and the cost-effectiveness limitation may be problematic, as is the proposed lack of mitigation for moderate impacts. MassDOT should consult with MassDEP and the Interagency Coordinating Group for guidance on development of the noise mitigation plan. The FEIR should include a detailed mitigation plan with commitments to an appropriate level of mitigation for project-related noise impacts. The FEIR should document how the project will comply with MassDEP air quality regulations and Noise Policy.

L-088.66

The DEIR/S compares vibration impacts experienced by receptors against the 80 VdB FTA criteria for human annoyance. The FEIR should compare the estimated vibration levels to existing conditions and describe the actual change that will be experienced. This additional information should be provided for residential impacts along the Stoughton route as well as for historic buildings. The DEIR/S discusses possible mitigation measures. The FEIR should include a mitigation plan with clear and specific commitments to address vibration impacts and an explanation of the reductions in VdB levels expected.

L-088.67

#### Environmental Justice

The FEIR should include a list of specific mitigation commitments to address noise and vibration impacts to Environmental Justice neighborhoods. The FEIR should also include an update on the investigation of potential adverse effects on any traditional cultural properties of

L-088.68



significance to Native American Tribes. The FEIR should clarify if there will be a disproportionate adverse impact to an Environmental Justice community with regard to traditional cultural properties, and if so, what mitigation will be implemented.

L-088.68

The DEIR/S projects potential financial impacts to Environmental Justice communities in Fall River as a result of property acquisition. The FEIR should specify how such impacts will be mitigated as part of the project. The DEIR/S also acknowledges that Environmental Justice communities may be negatively affected by increased property values in their neighborhood as a result of the South Coast Rail project. The FEIR should include further discussion and specific commitments on how this will be addressed (for example, through clear commitments to affordable housing as part of the project's station TOD plans, or other measures).

L-088.69

MassDOT should continue its outreach program during FEIR preparation and encourage the participation of those Environmental Justice neighborhoods and residences specifically affected by the proposed project. The FEIR should include an update on MassDOT's outreach efforts to Environmental Justice populations.

L-088.70

### Cultural Resources

The FEIR should include an update on historical and archaeological studies conducted since the DEIR/S and an update on consultations with the Massachusetts Historical Commission and local historic board and societies. The figures in the FEIR should show locations of historic architectural resources in the context of the project and its Area of Potential Effect. The FEIR should address potential conflicts with proposed station parking at the site of the historic H.H. Richardson train station in Easton and address local concerns relating to visual and cultural resource impacts. The FEIR should evaluate mitigation opportunities, including repairs and rehabilitation, for the historic train station in Stoughton.

L-088.71

The FEIR should expand on the analysis provided in the DEIR/S with a detailed mitigation plan for impacts to significant historical and archaeological resources. The FEIR should include an update on consultations with Native American Tribes and describe potential impacts to properties of significance to the tribes. The FEIR should include commitments to specific mitigation measures for any significant cultural impacts.

L-088.72

### Traffic and Public Safety

Many commenters expressed concerns regarding the proposed at-grade crossings for the rail line and the potential for increased accidents. The FEIR should evaluate the potential for increases in accident rates as a result of proposed crossings and identify specific measures, and the effectiveness of such measures, to protect public safety to the maximum extent feasible. The FEIR should evaluate potential safety impacts in the context of EEA's Environmental Justice Policy. Traffic congestion and potential delays in emergency services were also raised as concerns in the comment letters received, as were construction-related impacts to existing rail services. The FEIR should respond to these comments and include details of any mitigation proposed. The traffic mitigation plans in the DEIR/S should be revised as necessary based on further analysis for the Stoughton Electric alternative and included in the FEIR.

L-088.73



South Coast Rail Economic Development and Land Use Corridor Plan

L-088.74

The DEIR/S should include an update on the status of implementation of the Corridor Plan and explain how it will be implemented in parallel with the proposed rail and station development to ensure appropriate timing of mitigation and to optimize the smart growth potential of the project.

Long-Term Smart Growth Evaluation and Environmental Stewardship Plan

L-088.75

MassDOT should consult with the Interagency Coordinating Group (ICG) and set up a workgroup in conjunction with the ICG to develop the methodology and process for this component of the FEIR. MassDOT should explore existing models and performance metrics used to evaluate the effectiveness of smart growth plans and environmental protection strategies, and include a summary in the FEIR of experience from other regions that may be useful to apply in the case of this project. MassDOT should work with EEA, ICG, regional planning agencies, and local communities, to develop evaluation indicators and metrics tailored to the South Coast Rail project. The evaluation plan should include a monitoring component to assess the accuracy of impact projections and allow for mid-course corrections and adaptive strategies as needed. The FEIR should propose a mechanism for periodic reporting out to the public and other agencies on MassDOT's progress in achieving the smart growth and environmental goals of the project, including its commitments to protection of ecologically significant habitat.

The DEIR/S describes anticipated smart growth and environmental benefits of the proposed project. MassDOT should describe in the FEIR how potential impacts and benefits will be monitored and measured. Metrics to consider for the Smart Growth Evaluation and Environmental Stewardship Plan include spatial metrics based on data that can be integrated with GIS mapping to compare 2020, 2025, and 2030 conditions against the baseline and Build without smart growth (business as usual scenarios) to evaluate benefits in reducing sprawl and to identify areas for improvement. Other smart growth metrics to consider include: the percentage of new development acreage located in PDAs; the percentage of PPAs left undeveloped and permanently protected; the number of developments meeting TOD, LEED, neighborhood design or EESD standards; increasing shift of commuters from automobile to transit (riders and VTM reductions); change in IEI value of impacted areas and mitigation sites; the amount of land subject to transfer of development rights (TDR); and GHG emission reduction achievements of facilities in TOD areas. Implementation of the South Coast Rail Economic and Land Use Corridor Plan is expected to achieve various socio-economic benefits that could be monitored over time to evaluate the effectiveness of plan implementation. For example, the DEIR/S discusses environmental justice communities and related transit equity citing benefits the project will provide in terms of access to jobs, education and other services. The long-term evaluation plan should include metrics to evaluate how effective the project is in furthering social equity and environmental justice within the south coast communities.

L-088.76

Mitigation and Section 61 Findings

L-088.77

The FEIR should expand upon the smart growth implementation plan as outlined above. The FEIR should include details on the proposed measures, roles and responsibilities, and



MassDOT's commitments to implement specific measures to promote smart growth and achieve the mitigation and environmental benefits described in the DEIR/S. The FEIR should discuss the mitigation planning and outreach process conducted during FEIR preparation.

The FEIR should include revised Section 61 Findings for all state agency permits that reflect the detailed mitigation commitments to be provided in the FEIR. GHG commitments and related self-certification language should be included in the draft Section 61 Findings for MassDEP permitting.

L-088.78

The FEIR should include a separate chapter on mitigation measures, which should include a summary table of all mitigation commitments as well as the revised Section 61 Findings. The Section 61 Findings should describe proposed mitigation measures, contain clear commitments to mitigation and a schedule for implementation, and identify parties responsible for funding and implementing the mitigation measures. The draft Section 61 Findings will serve as the primary template for permit conditions. Final Section 61 Findings will be included with all state permits issued for this project and will include conditions considered binding upon the proponent as mitigation commitments.

L-088.79

#### Responses to Comments

In order to ensure that the issues raised by commenters are addressed, the FEIR should include responses to comments to the extent they are within MEPA jurisdiction. This directive is not intended to, and shall not be construed to, enlarge the scope of the FEIR beyond what has been expressly identified in this Certificate. The FEIR should also include a copy of this Certificate and a copy of each comment letter received on the DEIR/S.

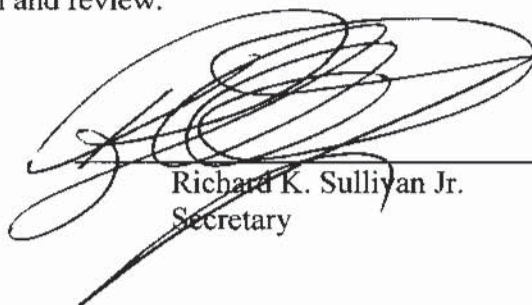
L-088.80

#### Circulation

The FEIR should be circulated in compliance with Section 11.16 of the MEPA regulations and copies should be sent to the list of "comments received" below. A copy of the FEIR should be made available for public review at the Public Libraries in the South Coast region municipalities. I commend MassDOT on its public outreach efforts to date and encourage continued public engagement during FEIR preparation and review.

L-088.81

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June 29, 2011  
Richard K. Sullivan Jr.  
Secretary



## Comments Received

4/15/11	1. David Slutz
4/26/11	2. Doug Leatham
5/02/11	3. City of New Bedford Assessing Department (Peter S. Barney)
5/02/11	4. Guillermo Gonzales
5/04/11	5. MassAudubon (1 <sup>st</sup> letter - public hearing May 4)
5/05/11	6. Peter L. Paull, Jr.
5/05/11	7. City of Taunton, Office of the Mayor
5/05/11	8. Jean C. Fox
5/06/11	9. Denise Paquette
5/06/11	10. Jim Mathes
5/06/11	11. Senator Michael J. Rodrigues
5/06/11	12. Dr. Candace Heald
5/06/11	13. City of New Bedford Planning Department
5/06/11	14. Massachusetts Historical Commission (copy of letter to the Army Corps)
5/09/11	15. David Chaffin
5/09/11	16. Rosemary Zehntner
5/10/11	17. John Theriault
5/10/11	18. Westport Community Schools
5/10/11	19. Southeastern Regional Planning & Economic Development District
5/10/11	20. Melinda Ailes
5/11/11	21. John K. Bullard
5/11/11	22. Pauline C. Nadeau
5/11/11	23. Representative Shauna O'Connell
5/11/11	24. Representative Robert M. Koczera
5/12/11	25. City of New Bedford Planning Board
5/16/11	26. City of New Bedford Office of the City Clerk
5/17/11	27. Nicole Dion
5/17/11	28. New Bedford Economic Development Council
5/18/11	29. Scott Martin
5/19/11	30. Stephen Castellina
5/23/11	31. Gerald J. McDonald
5/23/11	32. Forrest C. Lindwall
5/23/11	33. City of Fall River Planning Department
5/23/11	34. City of Fall River Conservation Commission
5/23/11	35. Town of Norton Board of Selectmen
5/23/11	36. Robert M. Mendillo
5/23/11	37. Peter Deschenes
5/23/11	38. Patti Linhares
5/23/11	39. Susan K. Plante
5/23/11	40. Fall River Area Chamber of Commerce
5/25/11	41. Weavers Cove Energy LLC
5/25/11	42. Steven P. Davis
5/25/11	43. Antoinette Lopes
5/26/11	44. Linda L. Palmieri



5/26/11	45. Eric M. Stevens
5/26/11	46. Louis F. Gitto
5/26/11	47. Joel N. Weber II
5/26/11	47. Louis F. Gitto
5/26/11	48. David L. Goldrick
5/26/11	49. Paul Fitzpatrick
5/26/11	50. Heather Graf
5/26/11	51. Grant Taylor
5/26/11	52. Representative Elizabeth Poirier (Elaine M. Hyland on behalf of Rep. Poirier)
5/26/11	53. John Malley
5/26/11	54. Senator John F. Kerry, Member of Congress James P. McGovern, and Member of Congress Barney Frank
5/27/11	55. Fall River Office of Economic Development
5/27/11	56. U.S. Environmental Protection Agency
5/27/11	57. Massachusetts Division of Fisheries and Wildlife, Natural Heritage and Endangered Species Program
5/27/11	58. Town of Easton
5/27/11	59. Sue Bass
5/27/11	60. Metropolitan Area Planning Council
5/27/11	61. Representative Antonio Cabral
5/27/11	62. Public Employees for Environmental Responsibility
5/27/11	63. Taunton River Watershed Alliance
5/27/11	64. Massachusetts Association of Conservation Commissions
5/27/11	65. MassAudubon (second letter)
5/27/11	66. Town of Stoughton (on behalf of Town from Kopelman and Paige, P.C.)
5/27/11	67. Sierra Club
5/27/11	68. Old Colony Planning Council
5/27/11	69. Massachusetts Department of Environmental Protection
5/27/11	70. Massachusetts River Alliance
5/27/11	71. The Nature Conservancy
5/27/11	72. Norton Conservation Commission
5/27/11	73. Curt Rice
5/27/11	74. Michael Mazucca
5/27/11	75. Eileen J. Marum
5/27/11	76. Heather and Doug Lewis
5/27/11	77. Priscilla Almquist-Olsen
5/27/11	78. Brian Reardon
5/27/11	79. Jennifer Reardon
5/27/11	80. Barbara Anzivino
5/27/11	81. Victoria Taylor
5/27/11	82. Michael Joliffe
5/27/11	83. Donald Michaud
5/27/11	84. Rebecca Turley
5/27/11	85. Town of Raynham, Selectmen and Board of Health
5/27/11	86. Robert Mullen
5/27/11	87. Marianne B. De Souza



5/27/11	88. Leon Litchfield
5/27/11	89. Sergeant Christopher John Barros
5/27/11	90. James Stanton
5/27/11	91. Town of Easton, Office of the Town Administrator
5/27/11	92. Mary Jane Golden
5/27/11	93. Wendy Van Dyke
5/27/11	94. Easton Historical Society
5/27/11	95. Linda Grubb
5/27/11	96. Massachusetts Office of Coastal Zone Management
5/27/11	97. The United Regional Chamber of Commerce
5/27/11	98. Elizabeth Acheson
5/27/11	99. Stephen Ford
5/27/11	100. Town of Canton, Office of the Selectmen
5/27/11	101. Massachusetts Division of Marine Fisheries
6/01/11	102. Massachusetts Department of Conservation and Recreation
6/01/11	103. Lynne E. McSweeney
6/01/11	104. Alan Johnson
6/01/11	105. John Molloy
6/02/11	106. WalkBoston
6/03/11	107. City of Boston
6/13/11	108. Massachusetts Department of Energy Resources
5/07/11	109. Paul Cienniwa

RKS/AOS/aos



# State Agencies

<b>Page</b>	<b>Name</b>
1	Massachusetts Department of Conservation and Recreation
5	Massachusetts Department of Environmental Protection
26	Massachusetts Division of Fisheries & Wildlife
33	Massachusetts Division of Marine Fisheries
36	Massachusetts Historical Commission
38	Massachusetts Office of Coastal Zone Management





May 27, 2011

**Secretary Richard K. Sullivan, Jr.**

Executive Office of Energy and Environmental Affairs  
Attn: Aisling O'Shea MEPA Office  
100 Cambridge Street, Suite 900  
Boston, Massachusetts 02114

**Re: EOEEA #14346, South Coast Rail Project**

Dear Secretary Sullivan:

The Department of Conservation and Recreation ("DCR" or "Department") is pleased to submit the following comments in response to the Draft Environmental Impact Report ("DEIR") submitted by the Massachusetts Department of Transportation ("DOT") for the South Coast Rail Project (the "Project"). The filing jointly serves as the Draft Environmental Impact Statement ("DEIS") for review under the National Environmental Policy Act ("NEPA").

The DEIR evaluates the following alternatives for the Project:

- A No-Build alternative, that is proposed to provide enhanced bus services;
- Attleboro Alternatives (Diesel and Electric) (the "Attleboro Alternatives")
- Stoughton Alternatives (Diesel and Electric) (the "Stoughton Alternatives")
- Whittenton Alternatives (Diesel and Electric) (the "Whittenton Alternatives")
- A Rapid Bus alternative that would construct a dedicated bus lane within the Route 24 corridor.

The DEIR concludes the Attleboro alternatives are infeasible, due to existing service constraints on the Northeast Corridor and the high costs to make necessary improvements to address these constraints.

DCR submits the following comments for Project alternatives with proposed station stops near DCR properties, and located within Areas of Critical Environmental Concern ("ACEC"). DCR administers the ACEC Program on behalf of EOEEA. DCR is highly supportive of the goals of this project to improve access and mobility to underserved communities of Southeast Massachusetts. Providing efficient rail service will have environmental benefits in air quality, carbon reduction and traffic congestion for this fast growing region. Well-located stations will provide new and improved transportation access to several DCR state parks benefiting communities beyond this region.

L-089.01

**DCR Properties**

DCR is pleased to note that the Rapid Bus Alternative has been modified to avoid impacts to the Blue Hills Reservation. Elimination of the Middleboro Alternative has alleviated potential for impacts to Morrissey Boulevard and Furnace Brook Parkway.

L-089.02

COMMONWEALTH OF MASSACHUSETTS · EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS

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Deval L. Patrick  
Governor

Timothy P. Murray  
Lt. Governor

Richard K. Sullivan Jr., Secretary  
Executive Office of Energy & Environmental Affairs  
Edward M. Lambert Jr., Commissioner  
Department of Conservation & Recreation

Some of the proposed rail corridors and rail stations are located near to DCR properties:

- The New Bedford Main Line forms the eastern boundary of the Acushnet Cedar Swamp State Reservation. This state reservation was designated in 1972 by the National Park Service as a National Natural Landmark. The New Bedford Main Line is currently an active freight line, and the addition of passenger service is expected to have no significant adverse effects on the resources of the state reservation. Required track improvements will be an opportunity to positively improve conditions, particularly water quality, through incorporation of storm water Best Management Practices (BMPs.)
- The proposed State Pier Station would be located adjacent to the New Bedford State Fishing Pier, the Freetown Station would be near to Freetown-Fall River State Forest, and the Battleship Cove Station would be adjacent to Fall River Heritage State Park. DCR supports the proposed rail stations, because the locations will provide opportunities to enhance public access to these DCR-managed facilities. DCR would like to coordinate with the proponent and the Southeast Regional Planning and Economic Development District (SRPEDD) to develop public access strategies as the Project design progresses and to avoid through design, conflicts between park access parking needs and commuter parking.

L-089.03

L-089.04

### Areas of Critical Environmental Concern (ACECs)

The ACEC Program has participated in the South Coast Rail Interagency Coordinating Group since its inception in 2007. All of the alternatives would have some impacts to the resources of the ACECs. Because the Attleboro Alternatives were deemed infeasible by the Proponent due to service constraints, these comments focus on the Stoughton and Whittenton Alternatives and the Rapid Bus which pass through the Hockomock Swamp ACEC.

The Hockomock Swamp ACEC was designated by the Secretary of Environmental Affairs for all nine of the inland resource qualifying categories (301 CMR 12.06): fishery habitat, inland wetlands, inland surface waters, water supply areas, natural hazard areas including floodplains, agricultural areas, historical/archaeological resources, habitat resources including rare species, and special use areas including undeveloped or natural areas, public recreational areas, or significant scenic site. Additionally, the Hockomock Swamp has been designated as an Important Bird Area by the Massachusetts Audubon Society.

### Impacts of Stoughton and Whittenton Alternatives (Electric and Diesel)

#### *Wetlands and Floodplains*

The DEIR describes wetland impacts approximately 2 acres (1.74 acres permanent and 0.57 acres temporary) within the Hockomock Swamp ACEC. Table 3.3-18 evaluates these impacts against impacts of other alternatives and assigns letter grades. The ACEC Program recommends that letter grades be eliminated as they may underestimate the wetlands impacts in the Hockomock Swamp and recommends that the FEIR focus on further defining the criteria and impacts discussed in the DEIR Biodiversity chapter.

L-089.05

To minimize wetlands impacts and allow for wildlife migration and connectivity between the wetlands currently bisected by the existing berm, a 1.8 mile trestle through the Hockomock Swamp ACEC is proposed for the Stoughton Alternative. Because of its significance as a mitigation feature, the engineering feasibility of the trestle on wetlands soils should be more fully explored in the FEIR.

L-089.06



*Biodiversity*

The ACEC Program believes the Stoughton and Whittenton Alternatives have high cumulative impact to biodiversity due to their impacts on rare species, Priority Natural Communities (Atlantic White Cedar), and their fragmentation of habitat and wildlife populations. As a complex ecosystem, impacts can be amplified due to the high inter-connectivity of resources and habitats.

As noted above, the Hockomock Swamp has been designated as an Important Bird Area by the Massachusetts Audubon Society, that supports neo-tropical migrant songbirds, as well as breeding populations of species particular to forest interiors, thus sensitive to impacts to connectivity. The CAPS (the Conservation Assessment and Prioritization System) analysis in (Appendix 4.14.) (UMass Amherst) a GIS-based coarse filter analysis of potential impacts to biodiversity, states that “Overall, the two routes through Hockomock Swamp showed the greatest estimated loss in ecological integrity” (p. 7).

L-089.07

As stated in the DEIR, “although partially mitigated by the Hockomock Swamp Trestle, using this railroad bed would affect the connectivity of adjacent habitats and reduce their overall biodiversity value.” (p. 4.10-64). The DEIR states that constructing the rail bed within the Hockomock Swamp ACEC will require removing the forest canopy over the corridor and “This gap will divide the Hockomock Swamp south of Foundry Street into two units of approximately 3,201 acres west of the rail line and 682 acres east of the rail.” (p. 4.14-84). The DEIR also states that “large forest blocks... to support successfully reproducing populations of area-sensitive forest-interior nesters ... must be over 500 acres. Several studies suggest that 750 to 1,200 acres are necessary, and that even larger areas in excess of 7,500 acres are optimal.” If the Stoughton and/or Whittenton Alternatives are forwarded to the FEIR/FEIS, the ACEC Program requests the Proponent propose any additional methods to avoid, minimize, or mitigate these impacts to biodiversity.

*Water Supply Resources*

The ACEC Program notes that the Hockomock Swamp ACEC was designated in part for the system of interconnected surface and ground waters and the high and medium yield aquifers that supply public drinking water. At the time of designation two public supply wells for the Town of Raynham and one for the Town of West Bridgewater were located within the ACEC, and potential municipal well sites had been identified in the Towns of Bridgewater, Easton, and Raynham. The ACEC Program suggests that further review be included in the FEIR especially for rail intersections with Zone IIs.

L-089.08

Mitigation Needs for Stoughton and Whittenton Alternatives

If the Stoughton and/or Whittenton Alternatives are forwarded to the FEIR/FEIS, the ACEC Program offers these comments toward further avoidance, minimization, and mitigation of environmental impacts. Minimization and mitigation suggestions in the DEIR should be more fully developed in the FEIR.

*Wetlands, Stream Crossings, and Flood Storage*

The ACEC Program requests stream crossings and culverts be evaluated against the Massachusetts Stream Crossing Standards, including maximizing hydrologic connections between wetlands for enhancement and restoration as well as for flood capacity. Climate change calculations should also be incorporated that are consistent with the most current guidelines for DOT and for federal permitting. Riverfront area impacts should be quantified and avoided, minimized or mitigated.

L-089.09

The ACEC Program requests stormwater management plans should use Best Management Practices (“BMPs”) and Low Impact Development (“LID”) to mitigate discharges of potential pollutants and sediments into wetlands within ACECs and hydrological connections to ACECs. | L-089.10

The ACEC Programs requests all permanent wetland impacts should include a preference for mitigation via restoration. | L-089.11

#### *Raynham Rail Station*

This proposed new station should minimize impervious area to avoid further land alteration in a heavily altered area adjacent to Hockomock Swamp. The Proponent should explore features such as structured parking, and BMPs for stormwater management. | L-089.12

#### *Secondary Growth Mitigation – “Corridor Plan”*

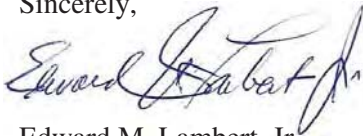
The ACEC Program commends DOT in the production of the Land Use and Economic Development Corridor Plan (“Corridor Plan”) with locally identified Priority Development Areas (“PDAs”) and Priority Protection Areas (“PPAs”). The ACEC Program supports a targeted implementation program. The FEIR should detail these commitments as part of the mitigation plan as well as a long-term monitoring and evaluation plan to gauge the success of smart growth. | L-089.13

#### Rapid Bus Alternative

The DEIR states that “The Rapid Bus Alternative is not anticipated to adversely affect biodiversity in the Hockomock Swamp ACEC other than a small loss of habitat immediately adjacent to the existing Route 24.” (p. 4.10-50) The Rapid Bus Alternative would result in approximately 4 acres of permanent wetlands impact and 3.19 acres of temporary wetlands impact within the Hockomock Swamp ACEC along the edges of wetlands already impacted by Route 24. The ACEC Program notes Best Managements Practices (“BMPs”) for stormwater management could minimize any stormwater impacts to ACECs and hydrological connections to them. | L-089.14

Thank you for the opportunity to comment. If you have questions or need further information regarding the ACEC Program, please contact Liz Sorenson, ACEC Program Director, at [elizabeth.sorenson@state.ma.us](mailto:elizabeth.sorenson@state.ma.us) or 617-626-1394. For coordination regarding enhanced public access to the state forests and parks, please contact Paul Cavanagh at [paul.cavanagh@state.ma.us](mailto:paul.cavanagh@state.ma.us) or 508-866-2580 ext 122.

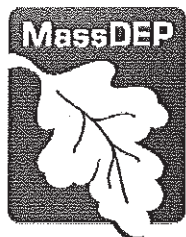
Sincerely,



Edward M. Lambert, Jr.  
Commissioner

cc: Alan R. Anacheke-Nasemann (ACOE)  
Kristina Egan, Wendy Stern (DOT)  
Phil Weinberg, Lealdon Langley, John Felix, Michael Stroman, Jerome Grafe (MassDEP)  
Rich Lehan, Jon Regosin, Jason Zimmer (DFG)  
Steve Smith, Nancy Durfee (SRPEDD)  
Matt Schweisberg, Tim Timmermann, Ed Reiner, Rosemary Monahan (US EPA)  
Niek Veraart, Vice President – The Louis Berger Group, Inc.





Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

## Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

DEVAL L. PATRICK  
Governor

TIMOTHY P. MURRAY  
Lieutenant Governor

RICHARD K. SULLIVAN JR.  
Secretary

KENNETH L. KIMMELL  
Commissioner

May 27, 2011

Richard Sullivan, Secretary  
Executive Office of Environmental Affairs  
Attention: MEPA Office, Aisling O'Shea, EOE No.14346  
100 Cambridge St., Suite 900  
Boston, Massachusetts 02114

Alan Anacheka-Nasemann  
U.S. Army Corps of Engineers, N.E. District, Regulatory  
696 Virginia Road  
Concord, MA 01742

Re: DEIS/DEIS/R for the South Coastal Rail Project  
EEA No: 14346

Dear Secretary Sullivan and Mr. Anacheka-Nasemann:

The Massachusetts Department of Environmental Protection (MassDEP) has reviewed the Draft Environmental Impact Statement/Draft Environmental Impact Report (DEIS/R or Report) on the South Coastal Rail Project proposed by the Massachusetts Department of Transportation (MassDOT).

The project envisions the establishment of a public transportation alternative that will link the cities of Fall River and New Bedford to Boston and create regional transit interconnections among the South Coast communities. MassDOT has defined the project's purpose as: "to more fully meet the existing and future demand of public transportation between Fall River/New Bedford and Boston, MA, and to enhance regional mobility, while supporting smart growth planning and development strategies in the affected communities." While the US Army Corp of Engineers has narrowed the definition of the project's purpose to meeting its public transportation demand and regional mobility components, MassDEP believes the project's potential to influence more sustainable growth patterns in this expanding region is relevant in considering its potential environmental impact in the context of MEPA review.

L-076.01

The Report examines the existing and future status of the roadways serving the South Coast communities and presents MassDOT's case for the need for the project based on adverse roadway and related air quality conditions, transit mode choice and equity, and implementation of the Commonwealth's transportation policies. The Report documents the growth in traffic volume, 2-3% overall and up to 5% in some communities that has created roadway congestion on the limited set of highways that connect commuters from the southeastern region to downtown Boston and Cambridge. These consistently congested conditions results in a Level of Service rating of F and increased vehicular accidents on the three major highways serving the South Coast. There has been an overall increase in these accidents, injuries and fatalities during the 2004-2006 study period of 7% with some routes showing increases of nearly 30% in accidents or fatalities. Fall River and New Bedford had the first and third highest number of vehicle crashes during this period. As new households continue to be added to the region, the projected growth in commuter trips and vehicle miles travelled (VMT) will exacerbate the existing congestion problems further compromising automobile safety and increasing the emissions of mobile source pollutants that have an adverse impact on air quality and climate change.

The projected growth in VMT and air pollutants in the South Coast is magnified by the lack of commuter rail service and the greater dependence on automobiles and buses in the region as compared to other areas of the Commonwealth currently served by commuter rail. The lack of availability and quality of service in public transit reduces regional access to employment and educational opportunities and medical and cultural facilities, particularly in the large environmental justice population centers of New Bedford and Fall River. Even for those communities within a reasonable distance of other commuter rail stations outside the South Coast, it is projected that the capacity of those bordering systems will be insufficient to meet the anticipated growth in ridership in their service areas. The Report identifies the planned improvements to the existing roadways and rail systems in the South Coast region, but concludes these projects will not address the shortcomings the communities face due to lack of equitable public transit access to Boston.

The principles that underlie the project's purpose of expanding access to quality public transit in an underserved region that contains economically and environmentally disadvantaged communities is consistent with multiple Commonwealth, regional and MassDOT transportation plans and policies. What is significant and commendable in the planning and execution of this project to date is MassDOT's commitment to rigorously examine the indirect growth impacts associated with extension of rail service and to actively and comprehensively foster smart growth strategies designed to ameliorate the potential adverse environmental impacts of sprawl development that could otherwise result. As discussed in further detail herein, the project will stimulate development beyond what would occur under a no-build scenario resulting in the consumption of land with significant environmental value such as wetlands, protected species habitat, open space and water resources and the emission of additional air pollutants.

The Report acknowledges that its projections rely largely on historic trends and the best professional judgment of the planning team MassDOT assembled. While MassDEP does not have the expertise to conduct a detailed critique of the Report's methodology, the model was developed with significant input from regional planning experts. The designation of preferred

L-076.02



development and preservation areas and the model's logic and assumptions appear to be reasonable given the variables in play and the number of communities being examined.

L-076.02

MassDEP also recognizes that whether the difference in outcomes depicted between the business as usual and smart growth scenarios will be realized is largely dependent on decisions made by municipalities and developers over the next two decades. But the Report also references the multiple forms of technical and financial assistance the Commonwealth and MassDOT in particular has expended and appears to be committed to extend to local and regional decision makers that will motivate and facilitate transportation oriented development and the conservation of environmentally valuable areas. MassDEP believes that in evaluating whether the project has taken all feasible measures to avoid or minimize damage to the environment, it is reasonable to look to the continued implementation by MassDOT of smart growth assistance and incentives by memorializing that commitment in the FEIS/R.

L-076.03

### Alternatives

The DEIS/DEIS/R compares the direct, indirect, and cumulative impacts of five sets of alternatives across the broad range of criteria as scoped in the Secretary's April 2009 Certificate: No Build, Attleboro Electric and Diesel, Stoughton Electric and Diesel, Whittenton Electric and Diesel, and Rapid Bus. All three rail options incorporate the common use of the rail system south of Weir Junction denominated as the Southern Triangle, which includes the New Bedford Main Line and the Fall River Secondary.

The Report concludes that the Attleboro Alternative is impracticable because it fails to meet the MBTA's Service Delivery Policy and the minimum reliability criterion for on-time performance standards. In addition to the relevance of practicability in relation to a MEPA evaluation of whether an alternative meets the project's purpose, the Water Quality Certification regulations, sets the performance standards for the discharge or placement fill in state and federal waters, requires MassDEP to consider practicability in reviewing project alternatives (314 CMR 9.06).

L-076.04

The Service Delivery Policy establishes a standard of three trips in a peak direction during the AM and PM peak periods. The on-time reliability criterion is defined as no more than 5 minutes late. As compared to the system wide reliability performance standard of between 78-95%, the Attleboro electric and diesel Alternatives met the reliability criterion only 54% and 49% of the time. The Network Simulation Analysis of 2030 Operations projected that the Attleboro Alternatives is operationally infeasible due to capacity constraints at South Station that would result in failing the on-time standard for the morning and particularly the evening peak period, and also negatively impact the on-time performance of four south side commuter rail trains.

The Report referenced an analysis of the effect of adding a fourth track to the Northeast Corridor (NEC) north of Readville in order to relieve the system capacity constraints caused by the addition of the Attleboro Alternative's operations to the NEC. The analysis concluded that a fourth track would cause major service disruptions and reconstruction of the Orange Line MBTA service, displace a significant number of businesses and residents in the Back Bay and South End of Boston, adversely impact acres of public open space, take 10-12 years to construct and add nearly \$2.5 billion dollars to the project's construction cost. The combination of these

impediments makes an infrastructure solution to NEC's capacity constraints impracticable. Even without a fourth rail option, the schedule for the necessary addition of a third track to the NEC is projected to be seven years as construction can only occur between 1AM and 5AM in order not to disrupt normal NEC operations, a constructability prescription that strains the boundaries of practicability. The analysis of the dependence of the Attleboro Alternatives on the NEC leads MassDEP to conclude that there are fatal deficiencies in this Alternative's ability to meet the project purpose in regard to the reliability and practicability criteria that cannot be reasonably overcome by expanding the existing system's infrastructure capacity.

L-076.05

The Report further concludes the Rapid Bus Alternative fails to meet the project purposes of regional mobility and reduction of VMT. The Rapid Bus Alternative is limited to six stations in five communities that generate five interregional links, as compared to the rail alternatives that generate over eight times as many links. The Rapid Bus' interregional link limitation results from the need to maintain a travel time that is reasonably comparable to the rail alternatives and have the buses operate at or near their capacity limits at the initial embarkation points, which precludes additional stops along the route.

Based on the Central Planning Transportation Staff (CTPS) analysis, the Rapid Bus only reduces VMT by approximately 81,500 miles, as compared to the rail alternatives' reduction range of 174,000 to 296,000. This is also reflected in the difference among the alternatives in new linked trips which represent the commuters who would otherwise drive to work. The number of Rapid Bus new linked trips is 1700, the rail Alternatives generate from 4,500 to 5,900. A similar disparity exists on the ridership and total new transit-wide boarding measures.

This significantly lower diversion of commuters from automobiles to public transit makes this alternative less effective in addressing the projected increase in traffic congestion and the potential consequences of decreased road safety. While the Rapid Bus will expand access between New Bedford/Fall River and Boston, it will be far less successful than the rail alternatives in achieving the project's regional mobility purpose due to inherent constraints within its operating parameters.

The Attleboro and Rapid Bus Alternatives also exhibit comparatively worse adverse environmental impacts in some, albeit not all, categories than the Stoughton and Whittenton Alternatives. The Report creates a "report card" ranking matrix under which the best performing alternative is rated as meeting 100% of the performance standard's quantitative objective and receives an A. The other alternatives are then ranked based on the percentage of their performance relative to the top performer. Using that relative ranking system, the Attleboro Alternative received an F in Total Wetlands and Threatened and Endangered Habitat, and Open Space Acquisition categories and a D in the ACEC category. The Rapid Bus Alternative duplicates the Attleboro Alternatives' F scores as well as receiving an F in the ACEC category. In comparison, the Stoughton and Whittenton Alternatives received all As and Bs, except for a C Whittenton received in the Threatened and Endangered Habitat category. Because the scoring is based on the relative impact among the Alternatives, in some instances the grades do not reflect a significant difference in environmental outcomes. This is not the case in the scale of wetland impacts. The Attleboro and Rapid Bus Alternatives alter nearly twice as many acres of wetlands than the Stoughton or Whittenton Alternatives. The Rapid Bus Alternative also produces worse

L-076.06



air quality than the no-build in NO<sub>x</sub> and Particulate Matter emissions, and negligible reductions in volatile organic compound and CO<sub>2</sub> emissions based on the use of diesel fuel. L-076.06

In weighing the significance of the report card scores, MassDEP is acutely aware that all of the Alternatives alter or degrade a range of environmentally sensitive resource areas and would require a variance under the Wetland Regulations. MassDEP is also cognizant that some of the quantitative resource impact distinctions may be less significant in evaluating an Alternative's adverse effect than its qualitative impact, for example adverse effects on rare species from the Attleboro Alternative and wildlife habitat from the Stoughton Alternative. However, the combination of the deficient performance of the Attleboro and Rapid Bus Alternatives in meeting the project's purpose and practicability standards and their low environmental ranking in multiple categories that are central to MassDEP's regulatory jurisdiction leads MassDEP to conclude that neither of these Alternatives should be selected to be the Alternative to proceed into the FEIS/R review. On that basis, MassDEP reasoned that it would more be productive to conduct a comparative assessment of the Stoughton and Whittenton Alternatives in order provide information relevant to selecting the preferred alternative to scoped for the FEIS/R. Therefore, the balance of this comment letter is confined to considering the benefits and environmental impacts of these two Alternatives. L-076.07

#### Stoughton and Whittenton Alternatives Overview

MassDOT identifies the Stoughton Alternative as its preferred alternative stating that it provides the greatest transportation benefit and fully meets the project purpose. The Whittenton and Stoughton Alternatives share the same track bed except for their routes through the Raynham-Taunton area. At the Canton Junction, the Stoughton Alternative continues directly south and passes through Taunton on the east, while the Whittenton Alternative bears southwest and transits Taunton on the west whereupon it connects with the Attleboro secondary and then proceeds southeast to reconnect with the Stoughton line at the Weir Junction. The travel time of the Whittenton Alternatives are 11 minutes longer than the Stoughton Alternatives and the station configurations in Taunton are slightly different; a station in Downtown Taunton on the Whittenton route and one on Dean Street on the Stoughton route.

Although the Whittenton Alternative generates slightly more total ridership (60 passengers), Stoughton's generates 400 more project-linked boardings, representing commuters switching from automobiles to the South Coast system, and an additional 1,000 for the commuter rail system as a whole. A second distinction in the routes is the origin of boarding of the passengers. The Stoughton Alternative draws nearly 50% of its passengers from Fall River and New Bedford and 19% from the Taunton stations. The Whittenton Alternative draws less than 40% of its passengers from Fall River and New Bedford and 26% from its Taunton station. As a result, of the sum and source of its ridership diversion, the Stoughton Electric Alternative reduces 68,000 more vehicle trips per day which yields less VOCs, NO<sub>x</sub>, PM<sub>2.5</sub> per day than the Whittenton Alternative. Therefore, to the extent that the project's need and purpose is focused on meeting the existing and future public transportation demand between Fall River/New Bedford and Boston and enhancing regional mobility, while collaterally improving air quality, it appears to MassDEP that the Stoughton Alternative better serves those ends. If further assessment is conducted of the Alternatives' relative merits to serve the project's purposes, one possible L-076.08

avenue of inquiry is the availability of measures or incentives that would potentially improve the Whittenton Alternative's Southern Triangle boardings and VMT reduction metrics. L-076.08

In further support of the Stoughton Alternative, MassDOT also notes that the Whittenton Alternative will require 12 grade crossings through Taunton raising concerns about safety and noise impacts. The Whittenton Alternative will incorporate 10 crossings now used by the Attleboro Secondary freight line, and reactivate two currently unused crossings. The Report analyzes the traffic impacts at the Whittenton only crossings. The analysis concludes that eight of the crossings will result in only minimal or minor traffic impacts, and the other four may affect traffic operations and the use of driveways abutting the roads on which the cars will queue. The Report offers no information regarding the potential safety impacts on vehicles or pedestrians as a consequence of shifting the line's use from freight to commuter rail and thereby increasing the frequency of train traffic. L-076.09

There is a marked difference in the noise impacts within the City of Taunton associated with the different routes. The Stoughton Electric and Diesel Alternatives' operations will generate 12 and 5 severe noise impacts respectively, as compared to 33 and 40 severe impacts from Whittenton's operations. In addition, the Whittenton Alternative will cause 708 severe horn noise impacts in Taunton as compared to only 28 for Stoughton. The Report concludes that nearly three times the number of affected residents residing in environmental justice neighborhoods in Taunton on the Whittenton route will be disparately impacted by noise in comparison to the percentage affected in non-environmental justice neighborhoods.

As presented in detail below, MassDEP has evaluated the Report in regard to the Stoughton and Whittenton Alternatives' impacts in areas subject to MassDEP's jurisdiction. The adverse impact of the all Alternatives is significant enough to require the project to obtain a variance from several of the performance standards in the Wetland Regulations (310 CMR 10.00). Due to the overlap of the Stoughton and Whittenton Alternatives' routes, except in the areas between the Weir and Canton Junctions, their environmental impacts are indistinguishable in the Southern Triangle and north of Canton Junction. In those areas where they diverge, however, the Stoughton Alternative adversely impacts more wetland resource protection areas along its route including, for example, Bordering Vegetated Wetlands, vernal pools, and wildlife habitat area owing to its traverse of the Pine Swamp, which the Whittenton Alternative avoids. The Division of Fisheries and Wildlife's Natural Heritage Endangered Species Program, has commented on the significant extent of these Alternatives' impact on the Hockomock Swamp and the adequacy of the Report's analysis, but concludes that the differences in their impact on state listed species should not be a determinative factor in the overall selection between these Alternatives. L-076.10

In sum, the Stoughton Alternative better serves the key measures of addressing the project's need and serving its purposes, but the benefit it accrues in that regard from the geography of its route results in greater harm to significant wetlands resources than the Whittenton Alternative. The Whittenton route, on the other hand, carries the potential of disparately impacting residents in environmental justice neighborhoods with excessive noise. Based on representations made in the Report and the MassDEP's experience, it is reasonably likely that through further minimization, mitigation and compensatory measures, which should be detailed in the FEIS/R, the divergence between these Alternatives can be narrowed to the point where their net differences in L-076.11



environmental impacts will be negligible. In contrast, MassDEP is not aware of additional transportation related measures that can close or substantially narrow the Whittenton Alternative's service of project purposes gap.

L-076.11

#### Wetlands, Rare Species and Biodiversity

As noted earlier, the Stoughton and the Whittenton Alternatives both incorporate the Southern Triangle and also share the route from the Canton Junction north to South Station. The distinction between the two alternatives is the jog Whittenton takes between the Canton and Weir Junctions avoiding the Pine Swamp which the Stoughton Alternative traverses. Both alternatives impact 1.74 acres in the Hockomock Swamp ACEC, with 75% of that impact associated with relocating a stream now confined to the excavated road bed. A trestle will span 1.81 acres of the swamp. In addition, the Stoughton Alternative will permanently impact slightly less than a half acre of wetlands in the Pine Swamp. The diesel versions of the Alternatives have slightly less impact because traction stations are not required.

The Whittenton Alternative has the same or less impacts as the Stoughton Alternative in every wetlands resource category, except for its effect on rare species habitat, connectivity (barrier impacts) and fragmentation. Comparison of these two alternatives shows Whittenton has:

- approximately 1.5 acres less impact on Bordering Vegetated Wetland (BVW);
- 0.77 acres less impact on vernal pool habitat;
- approximately 0.25 acres less impact on loss of supporting vernal pool upland habitat
- 0.76 acres less impact on Outstanding Resource Waters (ORWs);
- Approximately 3.5 acres less impact on Bordering Land Subject to Flooding (BLSF).  
Note: measurement of BLSF in acreage is less relevant than its measurement in cubic feet of flood storage lost. However, there is not currently sufficient topographic data to calculate the flood storage losses for each alternative in cubic feet (personal communication, Lisa Standley, Ph.D., VHB, 5/12/11); and
- 13 less occurrences of impacts to Riverfront Area (52 vs. 65).

L-076.12

Note: the number of interceptions of RA is less relevant than the acreage impacted by those occurrences. However, insufficient information is available at present to calculate the impacts on RA acreage (personal communication, Lisa Standley, Ph.D., VHB, 5/12/11, and page 4.16-62 of DEIS/R).

L-076.13

MassDEP's Wetlands Regulations require that projects within wetlands jurisdiction have no short or long term adverse effect on rare species. The project's impacts to rare species will require a wetlands variance. Based on consultation with the Natural Heritage Endangered Species (NHESP), MassDEP relied on the NHESP's Habitat Functions Loss Assessment and NHESP Score (Tables 4.15-27 and 28) in comparing the Stoughton and Whittenton Alternatives' impact on rare and endangered species rather than the Report's evaluation. Stoughton performed slightly worse than Whittenton with a score of 10.5 vs. 10 for impacts to rare species based on NHESP's methodology. The Tables show that the Stoughton route impacts 1.3 additional acres of Hessel's Hairstreak (butterfly) habit, increasing its habitat loss score by 0.5 over the Whittenton route, with a "moderate", barrier effect score for both alternatives; the Whittenton alternative, however, would have a barrier effect on Box Turtle of an additional 2,100 feet which the Stoughton Alternative would not have. (Table 4.15-28). The NHESP advised MassDEP that

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because the differences in overall state-listed species impacts between these two Alternatives are small, the differentials should not be a determinative factor in evaluating their relative adverse effects and benefits.

L-076.14

In addition to impacts on rare and endangered species, MassDEP regulates impacts to important wildlife habitat as one of the interests of the Wetlands Protection Act. The project will exceed the thresholds for a wildlife habitat evaluation and should be evaluated pursuant to MassDEP's 2006 Wildlife Habitat Guidance Document. Throughout the inter-agency review process, MassDEP raised concerns about the alternatives' impacts on the quality as well as the quantity of the affected habitat. Quantity, e.g. acres of wetland impact, linear feet of bank, etc., has been the traditional way that project impacts have been evaluated in the permitting process. The development of the landscape level assessment methodology, the Comprehensive Assessment and Prioritization System (CAPS), has made it possible to assess the impacts of projects qualitatively as well as quantitatively. The use of CAPS to assess project impacts is consistent with the Wildlife Habitat Guidance Document which requires a more detailed Wildlife Habitat Evaluation and additional mitigation for project impacts that occur at locations identified on CAPS maps as having an IEI value of 0.6 – 1.0, i.e. the top 40% of wildlife habitat. In addition, the United States Environmental Protection Agency (USEPA) has accepted Massachusetts' use of CAPS as its landscape level assessment method to meet the monitoring and assessment requirements to evaluate wetland health.

L-076.15

The CAPS model assigns a value of 0 to 1 for each point on the landscape, based on the ability of that point on the landscape to serve as wildlife habitat and generates an Index of Ecological Integrity (IEI). Locations with the best habitat score 1.0, while lower quality habitat scores closer to 0. When the model is run depicting the linear route of an alternative, the interception of a cell degrades the value of that point on the landscape to serve as wildlife habitat. Indirect impacts of the project also diminish the score of the cells as stressors do in the natural landscape where roads, railroads, impervious surfaces and other stressors degrade wildlife habitat not only at the point of interception, but also in the area around them. The DEIS/R used the model to assess the impact on wildlife habitat of this long linear project's relatively small impacts on multiple wetlands along the two routes that were modeled (Stoughton with the trestle and Whittenton with the trestle). The Report's CAPS comparative assessment of impacts showed minor differences in impacts on IEI that indicated the Whittenton Alternative would have greater adverse impacts on connectivity potentially resulting in more habitat fragmentation. However, the superior performance of the Stoughton alternative is due primarily to the fact that the Whittenton route is longer than Stoughton's and therefore intercepts more cells in the model (Scott Jackson, UMass, personal communication, 5/16/11).

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At MassDEP's request, UMass evaluated the degree to which important habitat (IEI > 0.6) in the baseline assessment would be compromised as a result of the Stoughton Alternative's one mile transit of the Pine Swamp, a 275 acre, un-fragmented high quality wetland that the Whittenton Alternative avoids. These results show that the Stoughton Alternative has a greater loss of cells with high IEI (216.3 units) than the Whittenton alternative (202.8 units) (Brad Compton, personal communication 5/20/11). These results when considered together with the CAPS data reported in the DEIS/R indicate that while the Whittenton Alternative would impact 7 units more than the Stoughton Alternative, the Stoughton route would impact 13.5 additional units

L-076.17



considered high value wildlife habitat. UMass calculates that the loss of 13.5 units would be equivalent to 18 acres of Pine Swamp no longer being characterized as important wildlife habitat (i.e. top 40% IEI), representing 6% of the swamp's area. (Brad Compton, UMass, personal communication, 5/26/11)

L-076.17

The location and extent of the project's impacts to wetland resource areas will require several variances from the Wetlands regulations performance standards. The wetland variance performance standards (310 CMR 10.05 (10)) are discussed in the proposed mitigation section of the Report. The three regulatory criteria to demonstrate eligibility for a variance are:

- (1) Demonstration there are no conditions or alternatives under which the project can proceed without a variance;
- (2) Mitigation measures are proposed to allow the project to be conditioned to contribute to Wetland Protection Act interests; and
- (3) Demonstration that the variance is necessary to accommodate an overriding public interest.

The Report documents that there are no project alternatives that could proceed absent receiving a variance, in particular in regard to the impact to Bordering Vegetated Wetlands and activities in an ACEC. The Report also summarizes the basis for MassDOT's contention that the project accommodates an overriding public interest including: addressing a significant need for public transportation improvements in the South Coast region and providing to the region important benefits in the form of public transit equity, service distribution and ridership, air quality and climate change improvements, and opportunities for smart growth and sustainable development as an alternative to sprawl that is projected to occur under the no-build scenario. The Report presents substantial and credible information on those subject matters, several of which have relied upon in other rail projects to support a variance request.<sup>1</sup> The FEIS/R should further refine how the Alternative selected for further review will advance these public interests.

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Meeting the variance criteria requires mitigation measures that will allow the project to contribute to the protection of the interests of the Wetlands Act. It is MassDEP's opinion that in order for either Alternative to go forward, mitigation measures to off-set the project's direct, indirect and cumulative impacts are warranted. Mitigation should directly mitigate wetland impacts, improve wetland conditions and avoid future indirect and cumulative impacts.

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<sup>1</sup> Rail projects reviewed for a variance have included: Greenbush Line Corridor (2002-2004), Plymouth Line and Route 3/3A Interchange Modifications (1994), Old Colony Railroad Neponset River Bridge (1993), Ashland Commuter Rail Station (2000), and Newburyport Extension and Layover facility (1996). The transportation needs addressed by these projects included: alleviating severe traffic congestion during peak periods (Greenbush, Old Colony, Ashland); addressing expected growth in commuters (Greenbush ; Old Colony , Newburyport increase in past 20 years) or high ridership generated (total ridership generated by Ashland Station); address deficient options for regional public transportation (crowding on Old Colony and Red Line, access problems with commuter boat; Old Colony – severe congestion on SE Expressway and Red Line; Newburyport – passenger rail discontinued in 1976 resulting in burden on other lines); reduction of Vehicle Miles Travelled on highways to improve regional traffic flow (Greenbush, Ashland); providing relief for oversubscribed parking demand at other rail and subway stations and in Boston (Greenbush, Old Colony, Ashland); and Increase safety for other drivers and pedestrians (Newburyport).

As stated in the DEIS/R, MassDOT convened a wetland mitigation group in which the Department participated. The group acknowledged that detailed mitigation and compensatory measures would not be developed until the preferred alternative/LEDPA was identified. The DEIS/R also reflects the group's general perspective that "...there are sufficient opportunities within the South Coast region's watersheds to provide adequate compensatory mitigation for any of the alternatives." MassDEP typically requires a 2: 1 ratio for BVW mitigation, at least 1:1 for all other wetlands, and encourages a 2: 1 mitigation for rare species impacts. However, flexibility exists in the variance process to consolidate some mitigation into more centralized areas rather than individual mitigation sites at each impact location. While the concept of redressing impacts to some wetland resources within the affected watershed rather than on a site specific basis is valid, that conclusion is premature for impacts to BLSF because it is not known currently what extent of compensatory flood storage can be provided at or near the points of impact, as is necessary to address local impacts to the flood control interest of the Act. This information should be developed in detail in the FEIS/R.

L-076.20

The DEIS/R's lack of specificity in the mitigation assessment also limits MassDEP's and other agencies' ability to consider or comment on the extent to which the impacts to habitat connectivity can be mitigated by methods such as providing wildlife passage structures through the rail bed, and the degree to which improvements to stream crossings may help to improve the passage of fish and wildlife. Similarly, insufficient information has been presented to determine the degree to which existing stream crossings within the abandoned rail bed can be improved because of the site specific information needed on topography and rail bed configuration has not been developed.

L-076.21

MassDOT has committed to land acquisition as a component of the mitigation strategies. MassDEP believes that targeted acquisition to mitigate for the cumulative and indirect effects of the project is an important and valuable contribution towards implementation of smart growth principles. Section 5 of the DEIS/R discusses the indirect and cumulative impacts of the project. The model's assumption's yield projections that show that under Scenario 1 (baseline plus induced growth without smart growth measures) the No-build Alternative will result in an additional 44,995 acres of loss, 13.11 of which will be wetlands. The implementation of smart growth principles can reduce those impacts by over 13,800 acres of land, and over 3.5 acres of wetlands. Similar results are predicted for biodiversity effects, which indicates that aggressive implementation of smart growth can reduce habitat impacts by nearly 50% (Table 5-12). Therefore, it is MassDEP's perspective that the maximum implementation of measures to enable smart growth should be adopted.

L-076.22

MassDOT has demonstrated its commitment and resources to conduct and motivate smart growth planning, but it has limited ability to implement Smart Growth land preservation priorities since much of the opportunity to do so depends on each community's willingness to adopt local zoning controls, and landowners' incentives to participate in transfer of development rights and other such smart growth mechanisms described in the Corridor Plan. One concrete means to translate the planning into resource protection is for MassDOT to fund for conservation protection targeted acquisition of parcels in Priority Protection Areas that are important to meet the long term benefit of populations of rare species and preserve land with high IEI. The selection of high IEI parcels for preservation should consider properties that will

L-076.23



not be adversely impacted by the direct or indirect impacts of the project which will reduce IEI scores after construction. L-076.23

Regardless of the final selected alternative, development of a Smart Growth Corridor Plan has the potential to mitigate environmental impacts and advance environmental preservation along the project corridor. The Plan represents an opportunity to advance environmental protection strategies with land use planning which optimizes economic and housing development, contains sprawl, and protects the integrity of critical natural resource habitats. MassDEP encourages the proponent to conduct an analysis of how to optimize land acquisition for areas that will accomplish these three goals and consult with EEA agencies in an effort to identify and protect areas critical to preserving the integrity of existing and valuable ecosystems. MassDOT should also partner with local planning boards and conservation commissions, regional planning agencies, and non-profit land trust/conservation organizations in a coordinated effort to adopt land preservation strategies which serve to stem wetland habitat fragmentation from sprawl commonly associated with unconstrained development. MassDEP requests the Secretary consider requiring this analysis in the FEIS/R in order to identify commitments that will ensure efforts to acquire land meet the project mitigation requirements and longer-term smart growth goals. L-076.24

MassDEP recommends that the mitigation strategies to be presented in the FEIS/R contain the following measures:

- Provide a 2: 1 ratio for BVW mitigation, at least 1:1 for all other wetlands, and encourages a 2: 1 mitigation for rare species impacts, subject to consultation with the NHESP;
  - Propose locations and design specific details for wildlife crossings;
  - Propose removal of targeted portions of the existing rail bed which will not be re-used for the new rail line (such as within the portion of the Hockomock Swamp where trestle will replace existing rail bed), specifically in locations that would improve wildlife habitat and fish passage, increase connectivity and reduce fragmentation without adversely affecting adjacent wetland resources;
  - Develop topographic information and propose improvements to existing stream crossings at site specific locations to improve wildlife and fish passage;
  - Perform meaningful riverfront area improvements and/or restoration to mitigate for riverfront impacts;
  - Provide on-site elevation specific compensatory storage for lost flood storage, or if such compensatory storage cannot be provided, to demonstrate an insignificant increase in flooding, to demonstrate that any incremental increase in flooding could be contained on the proponent's property, or to acquire flood easements;
  - Acquire land to meet the goals of advancing smart growth, providing long term net benefits to rare species and preserving high IEI land;
  - Commit to specific actions to implement the Corridor Plan and to work with communities to implement smart growth;
  - Propose wetland restoration within the Hockomock ACEC.
- L-076.25

While mitigation sites should be designed to preserve critical functions, such as flood storage volume at each locality, restoration of previously impacted wetlands and land preservation may also be considered as part of the mitigation effort. A high level of assurance needs to be provided that land identified for preservation, restriction, or replication/restoration mitigation to be taken by eminent domain can be acquired and will satisfy specific mitigation goals. As part of these assurances, additional fallback mitigation areas should be identified in the event that primary mitigation goals are not achieved.

L-076.26

#### Water Resources, Stormwater and Stream Crossings

The DEIS/R concludes that the Stoughton Alternative would involve temporary construction activities within one Zone A area, Zone II areas for six wells, and the IWPA for two wells which would not result in long-term impacts. During post-construction operations, the alternative would discharge stormwater to these same water supply protection areas plus 10 different waterbodies, including one ORW within the Hockomock Swamp ACEC and the East Branch of the Neponset River in the Fowl Meadow ACEC. The Whittenton Alternative's construction work will occur within one Zone A area, the Zone I area for one well, Zone II areas for 10 wells, and the IWPA for two wells. When post-construction operations commence, it would require stormwater discharges to one Zone A area, Zone II areas for 10 wells, the IWPA for two wells, and 11 different waterbodies, but there are no proposed stormwater discharges to ACEC areas. Both Alternatives incorporate one new station in Easton proposed in a Zone II area. MassDEP concurs with the Report's conclusion that with comprehensive and early planning and design of adequate containment, minimization and mitigation measures and consistent implementation and maintenance procedures, as discussed below, neither Alternatives' discharges would result in impairment of surface or groundwater quality or functions.

L-076.27

The project is required to comply with the Massachusetts Stormwater Standards for work proposed in wetland resource areas and buffer zones pursuant to 310 CMR 10.05(6)(k) and 314 CMR 9.06(6). In addition, stormwater standards are required to be met for land disturbances 1-acre or greater pursuant to the EPA NPDES Construction General Permit (CGP), when stormwater discharges are proposed to existing outfalls permitted pursuant to the EPA/MassDEP Municipal Separate Storm Sewer System (MS4) General Permit and/or for the proposed Layover Facilities pursuant to the EPA Multi-Sector General Permit (MSGP). The referenced State and EPA permits require proponents to demonstrate compliance with Total Maximum Daily Load (TMDL) requirements.

The DEIS/R generally identifies potential contaminants of concern that may be discharged in stormwater runoff from track drainage, train stations and layover facilities to wetlands and waters of the Commonwealth and the United States. The DEIS/R also generally discusses best management practices that will be considered to treat the stormwater runoff to comply with State and federal stormwater standards. The Report indicates that the proposed conceptual drainage design would ensure that treatment trains are used at station sites that provide 80 percent Total Suspended Solids (TSS) removal and at least 44 percent TSS removal for discharges to Zones I, II and IWPA areas, as required by the Standards, and that appropriate setbacks, volume controls and pretreatment requirements for these Zones and ORW's will be met. The FEIS/R should assess the ability of the selected alternative to meet each of the 10 Massachusetts Stormwater

L-076.28



Standards or specify if a variance to the standards specified at 310 CMR 10.05(6)(k) and 314 CMR 9.06(6) may be required. L-076.28

The DEIS/R generally discussed Environmentally Sensitive Site Design (ESSD) or Low Impact Development (LID) practices to manage stormwater runoff at proposed stations and parking facilities. Page 4.17-69 indicates the ESSD practices will be considered during the design phase. Because 310 CMR 10.05(6)(k) and 314 CMR 9.06(6) require analysis of alternatives to meet stormwater management requirements using ESSD or LID practices, it is highly recommended that ESSD or LID alternatives be assessed early on in project development as their selection will affect the amount of land taking. Otherwise, ESSD or LID alternatives may be precluded as the project design advances to permitting. For example, the Report indicates that deck parking will be considered as an ESSD practice versus at-grade parking. Deck parking has a smaller impervious area footprint and generates much less stormwater runoff than an equivalent number of at-grade parking spaces. Deck parking would mean that less land would need to be acquired than an at-grade parking facility. However, deck parking is substantially more expensive than at-grade parking, so the trade-off between less land taking and higher capital cost is best weighed through an alternatives analysis such as through the MEPA process. L-076.29

ESSD measures can be furthered through assessment of conceptual design principles in the FEIS/R, such as a project commitment to create smaller parking stalls and circulation lanes than traditional parking lots, specifying use of porous pavements in place of traditional pavements, and pavement disconnection versus use of traditional curb and gutter drainage. Other ESSD and LID practices that should be considered besides those listed in the DEIS/R are retaining existing mature non-invasive vegetation, using exfiltrating bio-retention in place of raised traffic islands, and tree box filters. The Report indicates that station and parking alternatives are to be located on developed sites whenever possible as an ESSD measure to minimize increase in stormwater runoff. When existing developed sites are razed for complete tear downs, MassDEP expects that the Stormwater Standards can be fully met versus only to the maximum extent possible as fewer constraints exist with complete tear downs compared to sites which are only minimally redeveloped. MassDEP recommends that the FEIS/R identify a new station, a reconstructed station, and a section of track in an environmentally sensitive area and design to the maximum extent feasible how those structures would be constructed and operated consistent with ESSD and LID concepts. L-076.30

No information appears to have been included regarding whether stormwater peak runoff rate attenuation requirements will be met. Peak rate control structures are in general larger than water quality treatment practices, so the FEIS/R need to assess whether each station and layover facility contains sufficient land area and whether additional right-of-way needs to be purchased along potential rail line routes to place attenuation structures. Stormwater recharge should be analyzed in the FEIS/R for its potential to attenuate peak runoff rates. If the analysis indicates that stormwater recharge can only attenuate a portion of the peak rate attenuation volume, open attenuation structures should be given preference in the analysis over closed structures such as underground chambers, which have higher maintenance requirements. L-076.31

The DEIS/R notes that layover facilities are classified by MassDEP as Land Uses with Higher Potential Pollutant Loads (LUHPPL), where additional measures are required for source control L-076.32

and pretreatment are required. In addition, the FEIS/R should identify the design capacity of the parking proposed at each station. Stations with parking lots for 1,000 vehicle trips or more are also classified as LUHPPL. MassDEP is crediting the top asphalt layer in porous asphalt as meeting the pre-treatment requirements specified at 310 CMR 10.05(6)(k)(5) for stormwater infiltration from those parking lots with 1,000 vehicle trips or more.

L-076.32

The DEIS/R notes that some alternatives involve Zone A and Zone I of public drinking water sources, as well as Outstanding Resource Waters (ORWs). Zone A, Zone I, Zone II, ORWs, Vernal Pools and other areas are classified as critical areas pursuant to 310 CMR 10.05(6)(k)(6). Zone I may only be used for intended drinking water purposes pursuant to 310 CMR 22.00. In a Zone A, 310 CMR 10.05(6)(k)(6) does not allow stormwater treatment practices or piping unless it's essential to the operation of the public drinking water system. The FEIS/R should identify how each alternative impacts critical areas, and how stormwater requirements will be addressed. Any potential Vernal Pools in the track route or at Stations or Layover Facilities need to be assessed to determine whether they can be certified as Vernal Pools.

L-076.33

There is a TMDL for the Neponset River for pathogens. 310 CMR 10.05(6)(k)(4) requires stormwater treatment measures to meet TMDL requirements in addition to providing TSS removal. Therefore, the FEIS/R should analyze for provision of measures for stormwater discharges to the Neponset that will meet both the TMDL and TSS removal requirements.

L-076.34

Section 7.4.10 of the DEIS/R indicates existing ditches along rail corridors will be improved to ensure proper drainage. In order to be credited as a stormwater treatment BMP, the improvements will need to be designed to meet specifications listed in the Massachusetts Stormwater Handbook, Volume 2 for water quality swales, infiltration trenches, or exfiltrating bio-retention cells. Further, Section 7.4.10 indicates that stormwater systems at existing stations will be upgraded as necessary to accommodate additional pavement. 310 CMR 10.05(6)(k)(7) requires redevelopment at those existing stations subject to wetland/401 regulations to meet the Stormwater Standards to the maximum extent practicable (MEP) and improve existing conditions. This requires a site specific analysis that describes the measures that can be provided to MEP and improve existing conditions for each Stormwater Standard. For example, if there is an existing station, the analysis needs to examine measures to attenuate runoff from the existing pavement rather than simply looking at attenuating the runoff from the proposed new pavement areas.

L-076.35

The DEIS/R appears to indicate that stormwater runoff will only be addressed when point sources, such as outfalls or drainage ditches, are present or proposed and implies that country drainage of runoff from the track drainage does not require compliance with stormwater management measures. Land disturbance of 1-acre or more is classified as a point source by EPA for purposes of the Construction General Permit. In addition, if the track construction, stations, or layover facilities are in a wetland resource area or buffer zone, the Stormwater Standards at 310 CMR 10.05(6)(k) apply. The DEIS/R appears to suggest that the track ballast and underlying or adjacent soils will naturally attenuate contaminants of concern in stormwater runoff from rail operations without treatment. The Stormwater Standards require source control measures to minimize potential for contaminants and treatment. The Greenbush rail line included extensive track drainage system, with a combination of drainage swales and perforated

L-076.36



pipe underdrain in the ballast that carried runoff and groundwater to remote locations for discharge to streams, bordering vegetated wetlands and other resource areas located at low points in the track alignment. Because of the need to maintain a dry rail bed, MassDEP anticipates that a similar track drainage system will need to be designed as part of the project, to provide sufficient treatment prior to discharging track drainage runoff to resource areas.

L-076.36

### Stream Crossings

Section 3.2, page 3-101 for the Stoughton Alternative indicates for culverts that would remain in place, existing culverts would be extended to accommodate the wider rail bed. Section 7.4.10 indicates Stream Crossing Standards will be met to the Maximum Extent Practicable (MEP). Compliance with Stream Crossing Standards is fully required for new culverts reviewed pursuant to Wetland or 401 regulations, and the Corps Programmatic General Permit. Compliance to MEP standards is required for replacement culverts. Constructing extensions to existing culverts may inhibit fish, amphibian, reptile, and other wildlife passage.

The FEIS/R needs to analyze new and replacement culverts ability to fully meet the Stream Crossing Standards, rather than only to the MEP as part of the project mitigation opportunity. Bankfull will need to be identified as the Stream Crossing Standards require new or replacement crossings to be sized to 1.2 times bankfull width at a minimum. Spans and open bottom arches should be analyzed to meet the Standards rather than only analyze closed bottom culverts.

L-076.37

During the comment period, MassDOT met with MassDEP representatives and identified spans and open bottom arches as potential mitigation measures within the track alignment containing the proposed trestle. These potential mitigation measures should be considered throughout the entire track alignment to the extent that they are practicable to improve fish and wildlife passage, and do not interfere with safe train operations. Closed bottom culverts are required to be embedded to a depth of at least 2 feet, so closed bottom culvert designs need to analyze measures to install and maintain the stone. The measures need to be met by use of single culverts, rather than double barrels. Where double or multiple barrels are proposed, at least one barrel should meet the Standards by itself. These measures provide for fish, amphibian, reptile, and other wildlife passage, so it is essential that connectivity be provided. These measures for fish and wildlife passage need to be included as part of project design and not deferred to installation at a later time.

### Chapter 91

The licensing research and historic water lines were provided by the MassDEP. The DEIS/R identifies several areas where the railroad alignment crosses non-tidal rivers or streams as well as areas where the railroad bed, station or layover facility is proposed on filled tidelands. There is no work proposed within flowed tidelands.

At the level of detail provided in the DEIS/R, the filled tidelands present at the Fall River Battleship Cove Station and at the New Bedford Whale's Tooth Station and Wamsutta layover facility could be considered landlocked tidelands as defined at 310 CMR 9.02. MassDEP welcomes the opportunity to view more detailed plans to confirm. The FEIS/R

L-076.38

should provide a public benefit determination consistent with chapter 168 of the Acts of 2007.

L-076.38

According to the DEIS/R, the layover facilities in Fall River at Weaver Cove East, Weaver Cover West and the ISP off North Main Street along the west side of the Fall River Secondary line are located on filled tidelands. MassDEP established the presumptive line of jurisdiction through professional review of a series of historic maps of the coast. To rebut this presumption, the project team needs to provide, in the FEIS/R and advisably through earlier consultation with MassDEP, a reliable surveyed map or plan that depicts the mean high water mark prior to alteration/impoundment and that can be accurately registered to a contemporary base map and was not available to the presumptive line professional team, along with other information as may be available such as cross-sections of the railroad construction.

L-076.39

MassDEP welcomes the opportunity to meet with the project team to make a definitive jurisdictional determination, as offered in the DEIS/R, based on either field inspection or plans providing greater detail. For planning purposes, the project team should note the following.

- If a non-tidal river or stream is navigable by any vessel any time of the year, presume that public funds have been expended "either upstream or downstream within the river basin" (emphasis added) and will be subject to jurisdiction under MGL c. 91 and 310 CMR 9.00. Lacking a definitive list of where public funds have been expended, MassDEP presumes as a general rule that only the non-navigable uppermost reaches of a river basin are not subject to review.
- The presence of a culvert should not automatically presume a lack of navigation. A field inspection can determine if a canoe or kayak can traverse through a culvert given its length, width and ground elevation.
- If the structure was previously authorized by license or legislation, a minor modification of that authorization is an option as described at 9.05(3)(a) and 9.22(2). MassDEP disagrees with the author's interpretation of that a Minor Modification can replace licensing for existing unauthorized rail structures. If no authorization is found for the existing structure, then a license application is expected to be submitted.
- The exception to licensing at 310 CMR 9.05(3) (c) would only apply if the project team is able to demonstrate the "continuation of a public service project", which presumably would not be true on a rail bed that has been in disuse for a number of years.

L-076.40

Determination of Water-Dependency: At the scale of the plans provided in the DEIS/R, it is difficult to determine the water-dependency of the proposed rail crossings. However, if the proposed crossing spans the water body from one bank to the opposite bank, the Secretary could determine through the MEPA review that it would be unreasonable to be located away from the tidal or inland water and thereby consider the crossing water-dependent pursuant to 310 CMR 9.12(2)(d).

L-076.41

MassDEP agrees with the statement in the DEIS/R that the use of filled tidelands for railroad layover yards in Fall River at Weaver Cove East, Weaver Cover West and the ISP yard off North Main Street are non-water dependent use infrastructure facilities.



Regulatory Standards: All railroad components subject to licensing will be reviewed under the standards of 310 CMR 9.31-9.40, and, for nonwater-dependent infrastructure, under 310 CMR 9.54 and 9.55. Table 4.18-12 summarizes the regulatory standards applicable to this project accurately with the following exceptions.

- Note that “replacement, reconstruction or other modification” to existing railroad beds is allowed, even in a Designated Port Area, provided there is limited net encroachment per 310 CMR 9.31(2)(b) and (c).
- The Final EIR should articulate in what ways the South Coast rail project is consistent with the approved Municipal Harbor Plans for Fall River and New Bedford, per 310 CMR 9.34. Of specific note, the DEIS/R states that intermodal connection to the ferry service in New Bedford is desirable but there was no discussion of how this would be achieved.
- The FEIS/R should articulate how the railroad components subject to licensing will preserve or enhance navigational capacity and maintain or enhance public access pursuant to 310 CMR 9.35 and 9.36. Further detail should be provided to better understand the statement in Table 4.18-12 that “wherever this cannot be achieved, feasible mitigation or compensation measures would be provided.” This is interpreted, at 310 CMR 9.35(1), as enhancing the public’s rights, such as navigation, fishing or providing alternative public access opportunities. Mitigating flood and erosion related hazards and attaining water quality standards are laudable goals but need to be related back to how these measures enhance the inherent rights of the public to be applicable.
- For the nonwater-dependent layover facilities, the performance standards of 310 CMR 9.54 and 9.55 would be applicable; the standards of 9.51 and 9.53 would not be applicable. While it is understood that public access may be restricted in a railroad yard, the FEIS/R should explore where on or near the layover facility the project team can “take reasonable measures to provide open spaces for active or passive recreation at the water’s edge” pursuant to 9.55(2).

L-076.42

Public Benefit Determination: The FEIS/R should provide a public benefit determination consistent with chapter 168 of the Acts of 2007 that includes, among other factors, the benefits to the public trust rights in tidelands and environmental protection or preservation.

L-076.43

### Air Quality

In accordance with the April 2009 MEPA Certificate, the air quality analyses of the Alternatives were based on current MassDEP and EPA approved modeling techniques and compared existing and future 2016 and 2030, No-Build and Build conditions for each of the project alternatives. The No-Build condition assumes a limited increase in existing bus service.

The DEIS/R indicates that the proposed project results in emissions reductions from shifts in automobile trips to commuter rail or rapid bus service (i.e., reduction in VMT and traffic congestion). The level of emissions reductions depends on the number of trips diverted to transit for each project alternative. The DEIS/R’s air quality analyses included an evaluation of commuter rail and rapid bus services (travelling and idling) using diesel fuel or electric power.

The DEIS/R includes mesoscale and microscale analyses of vehicular emissions for each Alternative. The DEIS/R briefly describes three fuel options for the Rapid Bus Alternative, including biodiesel and natural gas. However the air quality analysis did not provide an evaluation of the difference in emissions from the fuel options and assumed the use of diesel fuel only. MassDEP recommends that the Expanded Bus service use examine the use of alternative fuels and incorporate their use whenever feasible. The air quality analyses assume that all locomotives used in the rail alternatives will be new.

L-076.44

The mesoscale analysis estimated regional, daily volatile organic compounds (VOCs), oxides of nitrogen (NOX), carbon monoxide (CO), and particulate matter 2.5 and 10 microns in diameter (PM2.5 and PM10) emissions resulting from the changes in average daily traffic volume, roadway characteristics, and vehicle emission rates. The mesoscale analysis also determined the change in total ozone precursor emissions within the regional study area. The study area included roadways identified by the CTPS regional model, which generally encompasses eastern Massachusetts. The mesoscale analysis also estimated carbon dioxide (CO2) emission impacts in tons per year in accordance with the MEPA Greenhouse Gas (GHG) Policy.

The microscale analysis calculated the CO and PM concentrations resulting from increased vehicle emissions at congested intersections near the project stations. The intersections were selected based on the highest congestion levels measured by level of service in localized study areas around each of the twelve stations. A separate stationary source analysis estimated locomotive idling and plug-in power generation emissions at two proposed train layover facilities.

Both the Stoughton (Electric and Diesel) and Whittenton (Electric and Diesel) would reduce emissions of VOC, NOX, CO, CO2, PM2.5, and PM10 when compared to the No-Build condition. In addition, the results of the air quality analyses predict that these four project alternatives will not result in exceedances of the National Ambient Air Quality Standards for CO, PM10, and PM2.5. Emission reductions from the Stoughton and Whittenton Electric Alternatives are greater than the corresponding Stoughton and Whittenton Diesel Alternatives even when using new and cleaner diesel locomotives. This is primarily a function of better service quality (faster travel times) and, to a lesser extent, reduced traffic congestion. NOX emission reductions in particular are greater with the Stoughton and Whittenton Electric Alternatives.

MassDEP recognizes that there are differences in the emission outcome between the Alternatives; however, the differences are minor at the mesoscale levels. Except for Whittenton's Electric's CO air quality benefits, the results of the air quality analyses presented on Table 4.9-26 summarizing the 2030 mesoscale impacts for each Alternative show that the Stoughton Electric provides the best overall emission reduction of VOC, NOx, PM10, PM2.5 and CO2 of all the Alternatives.

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MassDEP strongly supports the proponent's commitment to the following construction period mitigation measures:

- Require construction contractors to follow all applicable regulations regarding control of construction vehicles emissions through proper equipment and motor vehicle

L-076.46



maintenance, the prohibition of excessive idling of construction equipment engines as required by MassDEP regulations in 310 CMR 7.11.

- Require contract stipulation that all diesel construction equipment used on-site will be fitted with after-engine emission controls such as diesel oxidation catalysts (DOCs) or diesel particulate filters (DPFs),
- Require contractors to implement appropriate dust control measures such as spraying stockpiles and regular sweeping of roadways adjacent to construction zones.

L-076.46

### Greenhouse Gas and Smart Growth

The April 2009 Certificate called for the DEIS/R to provide information on a substantial number of GHG related topics including fuels, building energy efficiency and renewable energy. The Report expressly did not address building energy efficiency or renewable energy assessment based on the rationale that the project's buildings would be open to the outside and not use HVAC equipment. The Report also concluded that while there would be no difference in residential GHG generation between business as usual and a smart growth scenario. The only operational air quality mitigation commitment made is for plug ins and electric block heaters at layover facilities.

L-076.47

MassDEP believes that the Report's rationale for not conducting any stationary source GHG analysis is inconsistent with other MEPA projects subject to the GHG Policy that have evaluated interior and exterior/parking lot lighting for energy efficiency and reliance on photovoltaic energy. While the quantitative energy savings will not be determinative in selecting the FEIS/R Alternative or perhaps substantive enough to justify quantification by modeling, the FEIS/R should identify GHG reduction-related design and operational features that MassDOT will commit to implement. Those commitments should provide for flexibility and incentives to motivate MassDOT to search out the most innovative solutions available when the stations and related facilities are in real-time design and construction.

The Report estimates that even accounting for induced growth, the Stoughton/Whittenton Alternative will result in a net GHG reduction over the No-Build scenario as a result of emission reductions driven by new state and federal rules governing mobile sources. In addition, the DEIS/R projects that in excess of 450,400 VMTs would be reduced as a result of a fully implemented smart growth strategy, but the estimated mileage savings are not converted into GHG reductions. As with the stationary source projections, estimating the GHG mobile-related smart growth may not be significant enough to justify modeled quantification, but the DEIS/R is deficient in failing to identify GHG mitigation commitments that will contribute towards reductions in VMTs.

L-076.48

The DEIS/R indicates that a feeder bus network is "envisioned" by MassDOT to connect the urbanized communities in South Coast region to the stations. A feeder bus network would provide an alternative to driving to stations and would support an expanded TOD effect if MassDOT provided and/or worked with developers to facilitate shuttle buses from business parks, mixed use developments and malls to the stations. MassDEP fully supports the concept of a feeder/shuttle bus network with frequent and convenient local bus linkage to the stations. MassDEP believes a feeder/shuttle bus network that enhances local and intra-regional access to

L-076.49

the stations should be a project commitment and recommends the proponent in cooperation with the two regional transit authorities further explore the concept and provide a project update in the FEIS/R. Feeder buses should accommodate commuters who choose to bike to bus stops. Rail stations should provide adequate bike racks and storage and also provide space and other support for programs that allow train riders to pick up bikes at one locate and drop them off elsewhere. MassDOT should commit to make the project a flagship for implementation of its GreenDOT program.

L-076.49

### Environmental Justice

The Report examines the potential benefits to and impacts on communities with environmental justice populations. As noted earlier, the project's purpose is to improve public transportation access to Boston and regional mobility for Fall River and New Bedford, communities with over 57% and 68% environmental justice populations, respectively. The absence of public transit access is particularly significant to these communities where over 20% of the households do not own an automobile in comparison to the other South Coast communities' rates of 90% or more.

The Report examined whether environmental justice populations would suffer a disparate impact as a result of the project looking at factors including: neighborhood fragmentation, residential and disruption and vibration and noise, and air quality. Air pollution will increase slightly with the use of diesel engines, but the emissions will not result in exceedance of any NAAQS.

In regard to noise, the Stoughton and Whittenton Alternatives were generally found not to disparately impact environmental neighborhoods in terms of the percentages of affected residences within an environmental justice neighborhood as compared to the total affected population, although overall the Whittenton Alternative impacts the greatest number of residents and Stoughton the least among all alternatives. In specific communities however, both routes have disparate impacts, particularly the Whittenton Alternative's comparative impact in Taunton. The Stoughton Alternative will have a disproportionate noise impact in Stoughton, 25% of the affected residents, 97 homes, being located in an environmental justice neighborhood. Along the Attleboro Secondary portion of the Whittenton route in Taunton, over 500 residences in environmental justice neighborhoods will be impacted, equaling 35% of the affected population. It should be noted these residents are currently impacted by freight train operations, which operate on a significantly reduced frequency than the proposed commuter rail.

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The Report summarizes MassDOT's noise mitigation policy which makes the construction of noise barriers subject to a per-resident cost effectiveness criterion. Based on the difference in impacts, it is projected that the Whittenton Alternative will cost \$420,000 more to implement noise mitigation than required for the Stoughton route. While mitigation cost-effectiveness cannot be ignored, MassDEP has concerns that proceeding on the basis that MassDOT's mitigation commitment is to be limited to its policy formula may not adequately address compliance with MassDEP's air quality regulations and Noise Policy or the disparate impact in certain environmental justice neighborhoods. MassDEP recommends that for the selected Alternative, the FEIS/R more closely evaluate noise impacts and mitigation and make commitments that address the above concerns.


L-076.51



The extent to which the project may provide benefits to environmental justice communities is a mixed calculation with certain neighborhoods potentially gaining in value from their proximity to stations that draw transit oriented development and other neighborhoods declining due to increased noise effects. In improving access to jobs, hospitals, colleges and reducing travel time to Boston, the Stoughton Alternative consistently out-performed the Whittenton Alternative in comparison to the No-Build Alternative. The City of Fall River was the largest beneficiary of the project's job inducing benefits and New Bedford benefited the least.

MassDEP looks forward to continue to work with MassDOT and the inter-agency work group on this project. If there are questions on any of the comments, please contact me.

Sincerely,

  
Philip Weinberg  
Associate Commissioner

Cc: Kristina Eagan, EOT  
Lisa Standley, VHB  
Richard Lehan, DFG



Commonwealth of Massachusetts

# Division of Fisheries & Wildlife

Wayne F. MacCallum, *Director*

May 27, 2011

Richard Sullivan, Secretary  
Executive Office of Environmental Affairs  
Attention: MEPA Office, Aisling O'Shea, EEA No.14346  
100 Cambridge St., Suite 900  
Boston, Massachusetts 02114

Alan Anacheke-Nasemann  
U.S. Army Corps of Engineers, N.E. District, Regulatory  
696 Virginia Road  
Concord, MA 01742

<i>Project &amp; Document Reviewed:</i>	<i>South Coast Rail Project DEIS/DEIR</i>
<i>Proponent:</i>	<i>Massachusetts Department of Transportation (MDOT)</i>
<i>NHESP Tracking No.</i>	<i>98-3735</i>

Dear Secretary Sullivan and Mr. Anacheke-Nasemann:

The Massachusetts Division of Fisheries & Wildlife (the "Division") has reviewed the South Coast Rail Project Draft Environmental Impact Statement/Draft Environmental Impact Report ("DEIS/DEIR") and would like to offer the following comments.

The DEIS/DEIR presents a description of the purpose and need for the project and considers a range of alternatives which differ in their ability to achieve the stated project goals, cost, and constructability. The project alternatives also vary considerably in extent of impacts to state-listed endangered species, wildlife habitat, wetlands, open space, and other environmental resources.

The Natural Heritage & Endangered Species Program ("NHESP") of the Division is responsible for implementation of the Massachusetts Endangered Species Act, M.G.L. c. 131A ("MESA"), and its implementing regulations at 321 CMR 10.00. As discussed in Section 4.15 of the DEIS/DEIR, all of the project alternatives involve some level of work in Priority Habitat of Rare Species and Estimated Habitat of Rare Wetland Wildlife. Consequently, MDOT will be required to file with the NHESP for review of the work under MESA.

The alternatives assessed in the DEIS/DEIR vary greatly as to the extent of their impact to state-listed species and their habitats, and NHESP's preliminary analysis suggests that it *may* be possible to avoid the need for a MESA Conservation & Management Permit for all but one of the proposed DEIS/DEIR alternatives (Stoughton, "straight" and Whittenton variants). However, even if the need for a MESA Conservation & Management Permit could not be completely avoided for the Attleboro and Rapid Bus alternatives (e.g., due to impacts to priority habitat associated with constructing a second track along portions of the New Bedford Main Line), any required endangered species mitigation would be modest compared to the mitigation that would be required for the Stoughton alternative.

L-065.01

The Stoughton alternative would use an inactive railroad right of way that bisects the Hockomock Swamp Area of Critical Environmental Concern ("ACEC"). At  $\pm 16,950$  acres, this ACEC encompasses the largest freshwater wetland system in Massachusetts. The Hockomock Swamp provides habitat for numerous state-listed species and a great diversity of native plants and animals. The Stoughton alternative would also bisect the  $\pm 5,000$  acre Hockomock Swamp Wildlife Management Area ("WMA") managed by the Division for the protection of wildlife and their habitats as well as for public's enjoyment and use.

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An Agency of the Department of Fisheries, Wildlife & Environmental Law Enforcement



As outlined in Section 4.15, the Stoughton alternative would result in the loss of state-listed species habitat and would fragment a large habitat, wetland, and open space complex, partially interrupting a migratory corridor used by state-listed species such as the Blanding's Turtle, Eastern Box Turtle, and Blue-spotted Salamander as well as by a variety of other wildlife species. In contrast, the other proposed DEIS/DEIR alternatives would run within or immediately adjacent to existing active rail lines (Attleboro) or existing highways (Rapid Bus). Although these alternatives might impact some Priority Habitat areas, the endangered species impacts and habitat fragmentation effects would be modest, especially in comparison to the Stoughton Alternative.

#### Endangered Species Impact Analysis

The Executive Summary, Section 4.15, and Section 3.3.3.2 of the DEIS/DEIR contain various qualitative and quantitative measures of the adverse impacts of the various alternatives on state-listed species. This includes a summary of an impact analysis completed by the NHESP, which properly concludes that the Stoughton Alternatives would have far greater impacts to state-listed species and their habitats than the Attleboro or Rapid Bus alternatives (Section 4.15.3.5, see "NHESP Scores" and "Overall Habitat Functions Lost," and "Barrier Effects" in the various tables). This conclusion is similarly reflected in the "Barrier Effect Grade" in Table 3.3-24 which assigns a grade of "F" to the Stoughton and Whittenton alternatives and a grade of "A" to the Rapid Bus and Attleboro alternatives. We note that compared to the Stoughton straight alternative, the Whittenton alternative impacts one additional area of Box Turtle Priority Habitat, but it also avoids the ecologically significant Pine Swamp Atlantic White Cedar wetland that supports a state-listed butterfly. However, because the differences in overall state-listed species impacts between these two Stoughton alternatives are small, it is the Division's opinion that they should not play a determinative role in evaluation of the relative impacts and merits of these two variants of the Stoughton alternative.

L-065.02

The DEIS/DEIR presents other measures for assessing the state-listed species habitat impact of the alternatives: (1) the total acreage of Priority Habitat impacted with or without existing disturbed areas included, and (2) the individual species impact assessments based on vegetation cover types. In the Division's view, these measures may not provide a meaningful basis for comparing state-listed species impacts among the various alternatives, and therefore, should not be used by the Army Corps or MEPA in determining the LEDPA or evaluating which alternatives should be carried forward. The Division believes that the calculations of total acreage of Priority Habitat impacted do not adequately take into account habitat quality or the habitat requirements of the various species, indirect effects, or barrier effects. These broader considerations are necessary to meaningfully assess the effect of a given acreage of impact on a given listed species. In addition, the NHESP disagrees with some of the assumptions of the individual species impact assessments performed by the project proponent based on the vegetation cover type assumptions shown in Table 4.15-9. As examples, (1) Wood Turtles make extensive use of USS, AG, P, and CL cover types; (2) Blue-spotted Salamanders are associated with RM, RM/AWC; (3) Long-leaved Panic Grass can be associated with W (e.g. seasonally drying pondshores), P, and other open canopy settings (e.g. swales, wet meadows, some of which are small and do not classify as wetland based on aerial photo-interpretation; and (3) the host plant for Water Willow Stem Borer is associated with a great diversity of wetland types including W (pond and lake margins), M, SS, vernal pools, and wetter sections of bogs. Finally, the Division notes that the project proponent has recently confirmed an error in the habitat impact acreage calculations related to the Whittenton alternative as presented in several locations in the DEIS/DEIR, including Tables 4.15-22 and 4.15-30. This results in an understatement of the acreage of Priority Habitat impacted by the Whittenton alternative, which actually has impact acreages roughly comparable to the Stoughton "straight" alternative.

L-065.03

Instead, the Division recommends that the Barrier Effect Grade shown in Table 3.3-24, and the NHESP scores and overall assessment of "Habitat Functions Lost" (see tables in Section 4.15.3.5) be used for evaluating the alternatives. Although the Division believes that this subset of the state-listed species information provided in the DEIS/DEIR is adequate for this stage of project evaluation, if the ACOE or MEPA require additional quantitative analysis of the relative state-listed species impacts of the various alternatives, we strongly recommend that the project proponent, the Army Corps and MEPA consult with the NHESP in developing or applying other state-listed species metrics.

Before a project can be eligible for a MESA Conservation & Management Permit, the Director of the Division must first determine that impacts to state-listed species and their habitats have been adequately avoided and minimized, and that the "applicant has adequately assessed alternatives to both temporary and permanent impacts to State-listed Species" (321 CMR 10.23). In addition to the habitat impact assessment discussed above, the DEIR/DEIS contains detailed information about the practicability of the various alternatives and the extent to which the various

L-065.04

alternatives achieve the project purposes. Although the Division will not render a final decision until after receipt of a MESA filing and/or Conservation & Management Permit application, review of public and agency comments, and completion of the MEPA process, it is the Division's opinion that the alternatives analysis presented in the DEIS/DEIR is adequate for this stage in the project review process.

L-065.04

The Division anticipates that one or more alternatives will be retained for further consideration and analysis in the FEIS/FEIR. As acknowledged in the DEIS/DEIR, a more detailed, finer-scale quantification of state-listed species habitat impacts will be conducted during this next phase of review. The NHESP should be consulted about methodology prior to the initiation of further habitat analysis. Similarly, the Division expects that a more detailed quantification of impacts to vernal pool habitat, general wildlife, and state-owned open space will be conducted on the alternative(s) that advance, so that a similarly detailed impact minimization and mitigation plan is included in the FEIS/FEIR.

L-065.05

The Division requests that the FEIR/FEIS contain a comprehensive description of how the project proponent proposes to meet MESA regulatory requirements, including the standards for authorizing a take of a state-listed species through a Conservation & Management Permit, if applicable. This should include detailed information and discussion about rare species and wildlife crossing and barrier design (e.g. culverts and bridges), as well as other impact minimization measures such as construction management to minimize turtle and salamander mortality. Similarly, the FEIR/FEIS should also thoroughly address how the alternative(s) would meet the long term "net-benefit" standard in 321 CMR 10.23 if applicable, including presenting, after consultation with the NHESP, mitigation proposals that are significantly more specific than those described in the DEIS/DEIR. Finally, we request that the EIR/EIS include detailed information about how the project proponent will mitigate impacts to vernal pools, general wildlife, and as discussed below, state-owned open space affected by the project.

L-065.06

#### Fisheries Concerns

24 named rivers and streams are potentially crossed or adjacent to the alternatives. For a list of species and fisheries survey results for each river or stream, please see Attachment 1.

L-065.07

Stocked trout waters are highly susceptible to changes in water quality and/or quantity such as siltation, water level fluctuations, loss of riparian habitat and alterations of the temperature regime. Therefore, the project must not in any way diminish the ability of Beaver Brook, Rattlesnake Brook or the Wading River to support stocked trout.

L-065.08

Best management practices for erosion and sedimentation control must be adhered to for all phases of construction to minimize potential impacts to the fisheries resources. To the greatest extent practicable, all in stream work should be conducted during low flow periods throughout the year. Times of year when stream flow is high due to extended rain and/or snow melt events should be avoided. If the projects results in the replacement of existing culverts, the culvert replacement should meet the replacement recommendations found in the "Massachusetts River and Stream Crossing Standards: Technical Guidelines, August 6, 2004" (the Standards) including, a minimum height of 6 feet, openness ratio of 0.5–0.75, natural bottom substrates through the crossing structure, and spanning 1.2 times the bank-full width to the greatest extent practical. If the project results in the placement of new culverts, the new crossing structure should, at minimum, meet the general standards for new crossing and strive for the optimum standards whenever possible including, a minimum height of 6 feet, openness ratio of 0.5–0.75, natural bottom substrates through the crossing structure, and spanning 1.2 times the bank-full width to the greatest extent practical. The Standards can be found at [http://www.umass.edu/nrec/pdf\\_files/guidelines\\_river\\_stream\\_crossings.pdf](http://www.umass.edu/nrec/pdf_files/guidelines_river_stream_crossings.pdf). Also, if the project will alter the streambed, we request that the existing grade be maintained.

L-065.09

#### Impacts to Hockomock Wildlife Management Area & Other Open Space

In addition to the NHESP's regulatory role, the Division manages Wildlife Management Areas ("WMAs") for the benefit of the citizens of the Commonwealth. As discussed above, the Stoughton alternative would use an inactive railroad right of way that bisects the Hockomock Swamp WMA. As a result, the Stoughton alternative has the potential to adversely affect the quality of habitat within the WMA, and to impact public access and use.

L-065.10

More specifically, the Division notes that the alternatives analysis provided in Section 3 of the DEIS/DEIR may understate the relative adverse impact to open space for the Stoughton Alternative by focusing exclusively on acreage of protected open space impacted. Given the ecological significance of the Hockomock, and the fact that



the Stoughton Alternative will bisect the WMA resulting in significant wetland, habitat, and open space fragmentation, it is the Division's opinion that the Stoughton Alternative is likely to have a greater adverse impact to protected open space than the other alternatives, despite a potentially lower acreage impacted.

L-065.10

For these reasons, the Division requests that the FEIR/FEIS contain a significantly more detailed and refined analysis of the scope of open space impacts associated with the Stoughton alternative's route through the Hockomock Swamp, including any impacts or infrastructure (e.g., access roads) related to the construction or ongoing maintenance of the trestle and railbed and right-of-way, as well as set forth a detailed plan to minimize and mitigate unavoidable open space impacts.. This more detailed impact analysis and mitigation plan should be completed for any other alternative(s) carried forward in the FEIR/FEIS.

#### Greenhouse Gas Emissions

Given the Commonwealth's increased concern about the extent to which greenhouse gas (GHG) emissions may impact the environment and our native flora and fauna, we request that the DEIS/DEIR provide a more comprehensive analysis of the extent to which the project will impact overall GHG emissions. This should include an analysis of GHG emissions associated with construction implementation as well as production of materials and supplies (e.g. trains, rails, ties, other building supplies). Finally, the Division recommends a coarse analysis of the GHG emissions associated with increases in secondary development attributed to the rail project. Although the current analysis shows a net decrease in GHG emissions associated with the project, to the extent that a more comprehensive analysis shows that the project alternatives result in a net increase in GHG emissions over the no-build alternative, the Division recommends that any increase be offset through mitigation.

L-065.11

In closing, the Division commends MDOT for taking a proactive approach to addressing endangered species permitting issues and other environmental impacts to-date. This includes, but is not limited to, a continuing commitment to constructing a trestle through a portion of the Hockomock Swamp, should the Stoughton Alternative be constructed. The Division looks forward to continued consultation with the project proponent and inter-agency working group, should this project move forward, as we continue to fulfill our MESA regulatory function. If you have any questions about the MESA portion of this letter, please contact Jon Regosin, Ph.D. at (508) 389-6376. If you have any questions about the portion of this letter dealing with the Hockomock Wildlife Management Area, please contact Jason Zimmer, Southeast District Manager at (508) 759-3406. We appreciate the opportunity to comment on this project.

Sincerely,



Thomas W. French, Ph.D.  
Assistant Director

#### Attachment (1)

cc: Kristina Egan, EOT  
Lisa Standley, VHB  
Richard Lehan, General Counsel, DFG  
Chris Boelke, NOAA  
Tim Timmerman, EPA  
Ed Reiner, EPA  
Maria Tur, USFWS  
Nat Tipton, DCR  
Liz Sorenson, ACEC, DCR  
MEPA Coordinator, DEP SERO  
Philip Weinberg, Lealdon Langley, & Mike Stroman, DEP

Jason Zimmer, DFW  
Rich Hartley, DFW  
Jack Buckley, DFW  
Town of Acushnet  
Town of Attleboro  
Town of Berkley  
Town of Boston  
Town of Braintree  
Town of Canton  
Town of Dartmouth  
Town of Dedham  
Town of Dighton  
Town of Easton  
Town of Fairhaven  
Town of Fall River  
Town of Foxborough  
Town of Freetown  
Town of Lakeville  
Town of Mansfield  
Town of Mattapoisett  
Town of Middleborough  
Town of New Bedford  
Town of Norton  
Town of Norwood  
Town of Quincy  
Town of Raynham  
Town of Rehobeth  
Town of Rochester  
Town of Sharon  
Town of Somerset  
Town of Stoughton  
Town of Swansea  
Town of Taunton  
Town of Westport



Attachment 1. Fisheries survey results for each river or stream potentially crossed or adjacent to the alternatives.

Fisheries surveys of the Assonet River have yielded 7 species: American eel (*Anguilla rostrata*), bluegill (*Lepomis macrochirus*), brown bullhead (*Ameiurus nebulosus*), chain pickerel (*Esox niger*), largemouth bass (*Micropterus salmoides*), pumpkinseed (*Lepomis gibbosus*) and redfin pickerel (*Esox americanus*).

Fisheries surveys of Beaver Brook have yielded 8 species: American eel (*Anguilla rostrata*), bluegill (*Lepomis macrochirus*), brown bullhead (*Ameiurus nebulosus*), golden shiner (*Notemigonus crysoleucas*), largemouth bass (*Micropterus salmoides*), pumpkinseed (*Lepomis gibbosus*), redfin pickerel (*Esox americanus*) and yellow perch (*Perca flavescens*). Additionally, the brook is annually stocked in the spring with brook trout (*Salvelinus fontinalis*), brown trout, rainbow trout (*Oncorhynchus mykiss*) and/or tiger trout (*Salmo trutta x Salvelinus fontinalis*).

Fisheries surveys of Cedar Swamp River have yielded 6 species: American eel (*Anguilla rostrata*), banded sunfish (*Enneacanthus obesus*), creek chubsucker (*Erimyzon oblongus*), brook trout (*Salvelinus fontinalis*), redfin pickerel (*Esox americanus americanus*) and swamp darter (*Etheostoma fusiforme*).

Fisheries surveys of the Cotley River have yielded 5 species: American eel (*Anguilla rostrata*), chain pickerel (*Esox niger*), largemouth bass (*Micropterus salmoides*), pumpkinseed (*Lepomis gibbosus*) and swamp darter (*Etheostoma fusiforme*).

Fisheries surveys of Dam Lot Brook have yielded 4 species: American eel (*Anguilla rostrata*), chain pickerel (*Esox niger*), largemouth bass (*Micropterus salmoides*) and tessellated darter (*Etheostoma olmstedii*).

Fisheries surveys of Fall Brook have yielded 7 species: American eel (*Anguilla rostrata*), banded sunfish (*Enneacanthus obesus*), brown bullhead (*Ameiurus nebulosus*), chain pickerel (*Esox niger*), creek chubsucker (*Erimyzon oblongus*), golden shiner (*Notemigonus crysoleucas*) and redfin pickerel (*Esox americanus americanus*).

Fisheries surveys of Furnace Brook have yielded 3 species: American eel (*Anguilla rostrata*), largemouth bass (*Micropterus salmoides*) and tessellated darter (*Etheostoma olmstedii*).

Fisheries surveys of Hodges Brook have yielded 4 species: creek chubsucker (*Erimyzon oblongus*), fallfish (*Semotilus corporalis*), redfin pickerel (*Esox americanus americanus*) and tessellated darter (*Etheostoma olmstedii*).

Fisheries surveys of the Mill River have yielded 10 species: American eel (*Anguilla rostrata*), black crappie (*Pomoxis nigromaculatus*), bluegill (*Lepomis macrochirus*), brown bullhead (*Ameiurus nebulosus*), chain pickerel (*Esox niger*), common shiner (*Notropis cornutus*), largemouth bass (*Micropterus salmoides*), pumpkinseed (*Lepomis gibbosus*), redfin pickerel (*Esox americanus americanus*) and tessellated darter (*Etheostoma olmstedii*).

Fisheries surveys of the Neponset River have yielded 14 species: American eel (*Anguilla rostrata*), black crappie (*Pomoxis nigromaculatus*), bluegill (*Lepomis macrochirus*), brown bullhead (*Ameiurus nebulosus*), common carp (*Cyprinus carpio*), chain pickerel (*Esox niger*), golden shiner (*Notemigonus crysoleucas*), largemouth bass (*Micropterus salmoides*), pumpkinseed (*Lepomis gibbosus*), redfin pickerel (*Esox americanus americanus*), swamp darter (*Etheostoma fusiforme*), white perch (*Morone americana*), white sucker (*Catostomus commersoni*) and yellow perch (*Perca flavescens*).

Fisheries surveys of the Pine Swamp Brook have yielded 4 species: brown bullhead (*Ameiurus nebulosus*), largemouth bass (*Micropterus salmoides*), pumpkinseed (*Lepomis gibbosus*) and redbfin pickerel (*Esox americanus americanus*).

Fisheries surveys of the Queset Brook have yielded 3 species: American eel (*Anguilla rostrata*), bluegill (*Lepomis macrochirus*) and tessellated darter (*Etheostoma olmstedii*).

Fisheries surveys of the Rattlesnake Brook have yielded 4 species: American eel (*Anguilla rostrata*), banded sunfish (*Enneacanthus obesus*), brown bullhead (*Ameiurus nebulosus*) and redbfin pickerel (*Esox americanus americanus*). Additionally, the brook is annually stocked in the spring with brook trout (*Salvelinus fontinalis*), brown trout, rainbow trout (*Oncorhynchus mykiss*) and/or tiger trout (*Salmo trutta* x *Salvelinus fontinalis*).

The Taunton River supports a wide variety of warm and estuarine fish species. Fisheries surveys have yielded 28 species: alewife (*Alosa pseudoharengus*), American eel (*Anguilla rostrata*), Atlantic menhaden (*Brevortia tyrannus*), banded killifish (*Fundulus diaphanous*), black crappie (*Pomoxis nigromaculatus*), blacknose dace (*Rhinichthys atratulus*), blueback herring (*Alosa aestivalis*), bluegill (*Lepomis macrochirus*), bluefish (*Pomatomus saltatrix*), brown bullhead (*Ameiurus nebulosus*), carp (*Cyprinus carpio*), chain pickerel (*Esox niger*), common shiner (*Notropis cornutus*), creek chubsucker (*Erimyzon oblongus*), crevalle jack (*Caranx hippos*), fallfish (*Semotilus corporalis*), gizzard shad (*Dorosoma cepedianum*), golden shiner (*Notemigonus crysoleucas*), inland silverside (*Menidia beryllina*), largemouth bass (*Micropterus salmoides*), mummichog (*Fundulus heteroclitus*), pumpkinseed (*Lepomis gibbosus*), redbfin pickerel (*Esox americanus*), striped bass (*Morone saxatilis*), tessellated darter (*Etheostoma olmstedii*), white perch (*Morone americana*), white sucker (*Catostomus commersoni*) and yellow perch (*Perca flavescens*).

Fisheries surveys of the Three Mile River have yielded 8 species: bluegill (*Lepomis macrochirus*), chain pickerel (*Esox niger*), golden shiner (*Notemigonus crysoleucas*), largemouth bass (*Micropterus salmoides*), pumpkinseed (*Lepomis gibbosus*), redbfin pickerel (*Esox americanus americanus*), tessellated darter (*Etheostoma olmstedii*) and yellow perch (*Perca flavescens*).

Fisheries surveys of the Town River have yielded 7 species: bluegill (*Lepomis macrochirus*), brown bullhead (*Ameiurus nebulosus*), chain pickerel (*Esox niger*), golden shiner (*Notemigonus crysoleucas*), pumpkinseed (*Lepomis gibbosus*), white sucker (*Catostomus commersoni*) and yellow perch (*Perca flavescens*).

The Wading River supports a wide variety of fish species. Fisheries surveys have yielded 14 species: American eel (*Anguilla rostrata*), banded sunfish (*Enneacanthus obesus*), bluegill (*Lepomis macrochirus*), brown bullhead (*Ameiurus nebulosus*), brown trout (*Salmo trutta*), chain pickerel (*Esox niger*), common shiner (*Notropis cornutus*), creek chubsucker (*Erimyzon oblongus*), fallfish (*Semotilus corporalis*), golden shiner (*Notemigonus crysoleucas*), largemouth bass (*Micropterus salmoides*), pumpkinseed (*Lepomis gibbosus*), redbfin pickerel (*Esox americanus*) and white sucker (*Catostomus commersoni*). Additionally, the river is annually stocked in the spring with brook trout (*Salvelinus fontinalis*), brown trout, rainbow trout (*Oncorhynchus mykiss*) and/or tiger trout (*Salmo trutta* x *Salvelinus fontinalis*).

Fisheries surveys of Whitman Brook have yielded 4 species: chain pickerel (*Esox niger*), largemouth bass (*Micropterus salmoides*), pumpkinseed (*Lepomis gibbosus*) and tessellated darter (*Etheostoma olmstedii*).

We currently have no fisheries survey information for Black Brook, the Blue Hill River, Lovett Brook, Steep Brook or Terry Brook.





Paul J. Diodati  
Director

# Commonwealth of Massachusetts

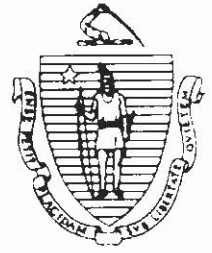
## Division of Marine Fisheries

251 Causeway Street, Suite 400

Boston, Massachusetts 02114

(617)626-1520

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Deval Patrick  
Governor

Timothy P. Murray  
Lt. Governor

Richard K. Sullivan, Jr.  
Secretary

Mary B. Griffin  
Commissioner

May 27, 2011

Richard K. Sullivan, Jr.  
Secretary, Executive Office of Energy and Environmental Affairs  
MEPA Office  
100 Cambridge St. Ste. 900  
Boston, MA 02114  
Attn: Nicholas Zavolas

Mr. Alan Anacheke-Nasemann  
US Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742

Re: NAE-2007-00698

Dear Secretary Sullivan and Mr. Anacheke-Nasemann:

The Division of Marine Fisheries (*Marine Fisheries*) has reviewed the Draft Environmental Impact Statement/Draft Environmental Impact Report (DEIS/DEIR) for the Massachusetts Department of Transportation to develop a public transportation system for the South Coast region, "the South Coast Rail Project," with respect to potential impacts to marine fisheries resources and habitat.

Many of the rivers and streams listed in Table 4.14-7 of the Biodiversity section of the DEIS/DEIR provide passage and spawning habitat for diadromous fish species as well as winter flounder and various species of shellfish. Species identified for these rivers and streams and recommended time-of-year (TOY) restrictions for in-water work in these systems are included below (Table 1). Recommended TOY restrictions are based on cross-referencing the rivers and streams identified in the DEIS/DEIR with the recently released Recommended Time of Year Restrictions (TOYs) for Coastal Alteration Projects to Protect Marine Fisheries Resources in Massachusetts<sup>1</sup>. These restrictions may not be required if the proponent can demonstrate that the actual construction location is outside the area used by diadromous species (e.g., upstream of an obstruction to fish passage) or uses methods that will not affect fish passage or use of spawning riffles (e.g., containment structures). Recommended TOYs are included for the Fall season for several rivers to protect emigrating juveniles. These restrictions may not be required if the proposed work will not obstruct passage. There are efforts underway to improve the maps of fish passage and spawning locations which may be available in the next 12 months and can benefit the construction planning process.

L-066.01

<sup>1</sup> Evans, N.T., Ford, K.H., Chase, B.C., and Sheppard, J. 2011. Recommended Time of Year Restrictions (TOYs) for Coastal Alteration Projects to Protect Marine Fisheries Resources in Massachusetts. Massachusetts Division of Marine Fisheries Technical Report, TR-47.

**Table 1. Species present and recommended time-of-year restrictions (TOYs) for river and stream crossings for the South Coast Rail Project.**

River or Stream	Project Alternative	Species Present	Time-of-Year Restriction	
			Spring	Fall
Assonet River	Southern Triangle	Alewife American eel Blueback herring Rainbow smelt White perch Winter flounder Shellfish	Jan. 15 – Nov. 15	
Cedar Swamp River	Southern Triangle	American eel	March 15 – June 30	
Cotley River	Southern Triangle	American eel	March 15 – June 30	
Fall Brook	Southern Triangle	Alewife American eel Blueback herring White perch	March 15 – June 30	Sept. 1 – Nov. 15
Rattlesnake Brook	Southern Triangle	Alewife American eel Blueback herring Rainbow smelt White perch	March 1 – June 30	Sept. 1 – Nov. 15
Steep Brook	Southern Triangle	American eel	March 15 – June 30	
Terry Brook	Southern Triangle	American eel	March 15 – June 30	
Beaver Brook	Attleboro Stoughton Whittenton Rapid Bus	American eel	March 15 – June 30	
Hodges Brook	Attleboro	American eel	March 15 – June 30	
Neponset River	Attleboro	Alewife American eel American shad Atlantic tomcod Blueback herring Rainbow smelt White perch Winter flounder Shellfish	Feb. 15 – Nov. 15	
Three Mile River	Attleboro	Alewife Blueback herring White perch	April 1 – June 30	Sept. 1 – Nov. 15
Wading River	Attleboro	American eel	March 15 – June 30	
Black Brook	Stoughton Whittenton	American eel	March 15 – June 30	
Mill River	Stoughton Whittenton	Alewife American eel Atlantic tomcod Blueback herring	Feb. 15 – June 30	Sept. 1 – Nov. 15



Pine Swamp Brook	Stoughton Whittenton	American eel	March 15 – June 30
Queset Brook	Stoughton Whittenton	American eel	March 15 – June 30
Taunton River	Stoughton Whittenton Rapid Bus	Alewife American eel American shad Atlantic sturgeon Atlantic tomcod Blueback herring Rainbow smelt Shellfish White perch Winter flounder	Jan. 15 – Nov. 15
Whitman Brook	Stoughton Whittenton	American eel	March 15 – June 30
Blue Hill River	Rapid Bus	American eel	March 15 – June 30
Dam Lot Brook	Rapid Bus	American eel	March 15 – June 30
Lovett Brook	Rapid Bus	American eel	March 15 – June 30
Town River	Rapid Bus	Alewife American eel Blueback herring	March 15 – June 30    Sept. 1 – Nov. 15

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Questions regarding this review may be directed to John Logan in our New Bedford office at (508) 990-2860 ext. 141.

Sincerely,



Paul J. Diodati  
Director

cc: Christopher Boelke, NMFS  
Ken Chin, DEP  
Robert Boeri, CZM  
Ed Reiner, EPA  
Richard Lehan, DFG  
John Sheppard, DMF  
Brad Chase, DMF  
Kathryn Ford, DMF  
Christian Petitpas, DMF

PD/jl/rl/sd



## The Commonwealth of Massachusetts

May 2, 2011

William Francis Galvin, Secretary of the Commonwealth  
Massachusetts Historical Commission

Jennifer McCarthy  
Chief, Regulatory Division  
New England District  
US Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Attn: Alan Anacheke-Nasemann

RE: South Coast Rail Project, Southeastern Massachusetts. MHC #RC.15924. EEA#14346.  
**CE-NAE-2007-00698.**

Dear Ms. McCarthy:

Staff of the Massachusetts Historical Commission (MHC), office of the State Historic Preservation Officer, have reviewed your letter of April 4, 2011, and the Draft Environmental Impact Statement/Draft Environmental Impact Report (DEIS/DEIR), for the project referenced above.

Project alternatives described in the DEIS/DEIR include the Attleboro, Stoughton and Whittenton Diesel and Electric rail alternatives and the Rapid Bus alternative. The Middleborough Alternative is no longer under consideration. The DEIS/DEIR, Preface Section P.4 indicates that the Massachusetts Department of Transportation (MADOT) has recommended the Stoughton alternatives, including diesel or electric rail service on the reactivated Stoughton line through the towns of Stoughton, Easton, Raynham and Taunton, as its preferred project alternative. The Corps proposes to evaluate multiple project alternatives to identify the Least Environmentally Damaging Practical Alternative.

The Corps has requested the MHC's concurrence with the completeness of identification efforts for known but not for as-yet-unidentified historic properties, and with the Corps' preliminary determinations of eligibility and effect. Preliminary determinations of National Register eligibility and effects to previously identified historic properties are presented in DEIS/DEIR Sections 1.5.8 and 4.8. Recommendations for additional cultural resources identification and evaluation efforts for the project alternatives are also included in Section 4.8, and are noted in your letter.

The Corps proposes to complete historic properties identification and evaluation efforts once a preferred alternative has been selected as a single corridor. The draft research design and methodology for intensive-level cultural resources survey for the preferred project alternative should be submitted to the MHC for review and comment.

The MHC prefers to comment on the results of the identification and evaluation efforts and the Corps's effect determinations after the cultural resource surveys have been completed for the preferred alternative.

L-012.01



Section 4.8.5 of the DEIS/DEIR generally summarizes proposed mitigation of impacts to cultural resources. Mitigation measures for specific project adverse effects, including noise, vibration, alteration of setting and demolition are discussed in Sections 4.8.5.3. Although avoidance and minimization are considered in Section 4.8.5.1 and .2, an adverse effect to significant historic properties is presumed for the project as a whole, and recommendations for the development of a Memorandum of Agreement (MOA) are described on page 4.8-95.

The presumption of adverse effect and mitigation is premature at this stage of project planning when several project alternatives are still in consideration, and with the identification and evaluation efforts, and the consultation process, not yet completed. The Final EIS/EIR should describe the relationship of consultation under 36 CFR 800.6 to the development of appropriate measures to avoid, minimize or mitigate adverse effects to significant historic properties, to more closely track the regulatory process of 36 CFR 800.

L-012.02

MHC also notes that mapping of historical architectural resources identified in DEIS/DEIR Volume II figures 4.8-1 to 4.8-29 are derived from 2009 cultural resources identification efforts. Plans for track alignments, stations, layover facilities, track and electrical transmission infrastructure have been refined from the alternatives presented in the 2009 ENF (pg. 1-7). The currently proposed 2011 project alternatives are described in Section 1, and are shown in Section 4.5, 4.12 and 3.2 figures, including conceptual station and layover facilities impact areas and locations of traction power electrical transmission infrastructure. Project figures in the Final EIS/EIR should accurately present the preferred project alternative impact areas and their relationship to identified historical architectural resources.

L-012.03

These comments are provided to assist in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800). If you have any questions or require more information at this time, please write to Jonathan K. Patton at this office.

Sincerely,



Brona Simon  
State Historic Preservation Officer  
Executive Director  
State Archaeologist  
Massachusetts Historical Commission

xc: Kathleen Atwood, USACOE-NED  
Anthony Guy Lopez, Advisory Council on Historic Preservation  
Bettina Washington, THPO, Wampanoag Tribe of Gay Head (Aquinnah)  
George Green Jr., THPO, Mashpee Wampanoag Tribe  
John A. Peters, Jr. Massachusetts Commission on Indian Affairs  
A. Kenneth Alves, Assonet Band, Wampanoag Nation  
Kristina Egan, MADOT  
Andrew Brennan, MBTA  
Holly Palmgren, MBTA  
Secretary Richard K. Sullivan, EEA, Attn: Aisling O'Shea, MEPA Unit  
Stephen C. Smith, SRPEDD  
Historical Commissions, Towns of: Quincy, Milton, Canton, Randolph, Braintree,  
Holbrook, Avon, Stoughton, Norwood, Needham, Sharon, Easton, Foxborough, Mansfield, Bridgewater, Brockton, West  
Bridgewater, Taunton, Berkley, Lakeville, Middleborough, Norton, Attleborough, Fall River, Freetown, New Bedford  
Deborah C. Cox, PAL  
Lisa A. Standley, VHB, Inc.



THE COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS  
OFFICE OF COASTAL ZONE MANAGEMENT  
251 Causeway Street, Suite 800, Boston, MA 02114-2136  
(617) 626-1200 FAX: (617) 626-1240

## MEMORANDUM

TO: Richard K. Sullivan Jr., Secretary, EEA  
ATTN: Aisling O'Shea, MEPA Unit  
FROM: Bruce K. Carlisle, Acting Director, CZM  
DATE: May 27, 2011  
RE: EEA 14346, South Coast Rail Project DEIR/DEIS; New Bedford, Fall River, Freetown

The Massachusetts Office of Coastal Zone Management (CZM) has completed its review of the above-referenced Draft Environmental Impact Report/Statement (DEIR/DEIS), noticed in the *Environmental Monitor* dated March 23, 2011. While this project will have potential impacts to communities along the entire length of the proposed alternative routes from Taunton, New Bedford, and Fall River to Boston, CZM has focused its comments on those sections that have the potential to impact coastal resources and coastal communities. The project proponent, the Massachusetts Executive Office of Transportation and Public Works (EOT), has submitted an application to the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act. The project will also require review and concurrence under CZM's Federal Consistency review process.

### Project Description

The DEIR/DEIS states "(T)he purpose of the South Coast Rail project is to more fully meet the existing and future demand for public transportation between Fall River/New Bedford and Boston, Massachusetts and, to enhance regional mobility, while supporting smart growth planning and development strategies in the affected communities." The DEIR/DEIS provides information on the need for the project and eight evaluated alternatives as required by MEPA. These alternatives include a No-Build Alternative, a Rapid Bus Alternative, and both electric and diesel versions for three different rail alternatives. Early in the preparation of the DEIR/DEIS, the U.S. EPA requested that a hybrid alternative be evaluated. Although mentioned in the DEIR/DEIS, early evaluation quickly eliminated this as an alternative and it was not evaluated in detail.

L-092.01

CZM understands that all of the rail alternatives propose the same infrastructure in the "Southern Triangle" portion of the project which includes the coastal communities, and therefore will have similar potential resource impacts. The Rapid Bus Alternative has similar potential impacts to coastal resources, especially from the perspective of station location and development. Given the similarity of impacts to coastal resources from all the build alternatives, CZM does not expect coastal resource impacts should be a significant driver in the selection of the proposed alternative. Therefore, CZM's comments will only focus on those parts of the "Southern Triangle" portion of the project that are within the coastal zone and which could potentially have impacts to coastal resources.

The rail alternatives include five proposed rail stations and two layover facilities in the project's "Southern Triangle" and within the coastal zone. Several options are being considered for the layover facilities. The two rail stations in New Bedford located within the coastal zone include the Whale's Tooth Station and the State Pier Station. The State Pier Station was eliminated from consideration in the DEIR/DEIS. The two rail stations in Fall River located within the coastal





zone include the Battleship Cove station and the Davol Street station. The fifth and final station located with the coastal zone portion of the project is the South Main Street station (UStorage Site) in Freetown. Two potential sites are being considered for layover facilities in New Bedford. The Wamsutta Street Layover option is within the coastal zone, near the harbor and adjacent to the Whale's Tooth Station. The Church Street Layover option is outside the coastal zone and several miles from the harbor. Three potential sites are being considered for layover facilities in Fall River - the ISP Layover option, the Weaver's Cove West option, and the Weaver's Cove East option - are all located within the coastal zone. The actual rail route taken between this "Southern Triangle" segment of the project and Boston is mainly outside the coastal zone. It is likely to have little or no impact on coastal resources. A part of the proposed "Southern Triangle" goes through the coastal town of Berkley, but not within or near the coastal zone boundary.

## **Project Comments**

### *New Bedford Whale's Tooth Rail Station*

The Whale's Tooth station is the only rail station currently proposed for the New Bedford portion of the project that is within the coastal zone. While the proposed site is presently a paved parking lot, the construction of the rail station infrastructure and reconfiguration of the site present an opportunity to improve the site's stormwater infrastructure to both minimize stormwater runoff and to treat, to the maximum extent possible, the remaining runoff. Given the significant idling time that trains are likely to spend at this location, attention should be given to the potential non-point source pollutants that may come from these trains. This proposed rail station will share some existing rail infrastructure with ongoing and future commercial/industrial freight rail uses. This rail station is also located across Herman Melville Boulevard from the New Bedford/Fairhaven Designated Port Area (DPA) of the port. With this in mind, it is important that proposed rail station activities and associated uses be compatible with the working waterfront characteristics of the area and able to coexist with industrial port uses. CZM and the City of New Bedford have worked closely with the MA DOT to ensure that the proposed rail activities were consistent with the June 14, 2010 state-approved New Bedford/Fairhaven Harbor Plan Update. This plan identifies the Whale's Tooth Parking Lot area as a future inter-modal transportation center, including commuter rail, freight rail, local and regional bus service, taxi and trolley service, and parking. As the future plans for this proposed rail station are developed in greater detail, it is necessary to regularly review the design details to ensure this compatibility is maintained. This compatibility concern is especially true for any future transit oriented development, particularly residential development that may be proposed as part of the project. CZM recommends that low-impact development techniques and practices be used, to the greatest extent possible, to reduce potential non-point source impacts.

L-092.02

### *New Bedford Overnight Train Layover Facility Site Options*

The Church Street Overnight Train Layover Facility site is outside the coastal zone and far from the harbor area. Therefore, this site can be assumed to have lower potential impacts on coastal resources and existing industrial port operations than the Wamsutta Overnight Train Layover Facility site, located adjacent to the proposed Whale's Tooth Rail Station and DPA uses. However, CZM recognizes that the Wamsutta site may have logistical, operational, or other characteristics that make it the preferred site over the Church Street location. If the Wamsutta site is selected for the overnight train layover facility, CZM recommends that attention be given to minimize non-point source pollutants from the layover facility and to, also, minimize any conflicts the layover facility might have with existing or potential future freight operations to and from the industrial port.

L-092.03

### *Fall River Rail Stations*

Two rail stations are proposed within Fall River, Battleship Cove and Fall River Depot. The Battleship Cove station is within the coastal zone. It is adjacent to the Mount Hope Bay DPA, near an area of marine industrial activities and aging mill buildings. The DEIR/DEIS states that this station is partially within the DPA. However, CZM recently clarified its DPA boundary in this area and the station site is no longer in the DPA. This station is proposed to be a seasonal station designed to service walk-in and pick-up/drop-off customers. The Fall River Depot Station is partially within the coastal zone in an urban area of residential and commercial activity. It will be a year-round station that includes extensive parking facilities. Both proposed stations are relatively near the coastal waters of Mount Hope Bay, and station designs should include infrastructure and strategies to minimize stormwater runoff and to treat to the maximum extent possible the remaining stormwater runoff. Attention should also be given to the potential non-point source pollutants that may come from idling trains at the stations. Both proposed rail station will share a portion of the existing rail infrastructure that runs into the industrially developed portion of the waterfront. CZM recommends that accommodations be made to maintain any existing or potential future industrial/commercial freight rail activities that support the industrialized portion of the port. The Fall River Depot station is separated from the waterfront by several busy roadways. The city's harbor planning process from the late 1990's expressed a desire to allow a more pedestrian friendly access and reconnection to the waterfront from this area, and proposed a long-term strategy to reduce area traffic.

L-092.04

### *Fall River Overnight Train Layover Facility Site Options*

The three proposed Fall River layover facilities are with the coastal zone, near the waters of Mount Hope Bay/Taunton River. While no layover facility is proposed within a FEMA Velocity Zone, a small portion of the Weaver's Cove West Layover Facility is within the FEMA Zone A 100 year floodplain. CZM recommends that the train layover facility selected be located outside of the FEMA Zone A. Given the projected sea-level rise and the long-term nature of this rail infrastructure, CZM also suggests that the proponent consider including a margin of safety to avoid a layover facility being located in a future elevated Zone A. Finally, CZM recommends that attention be given to minimizing non-point source pollutants from the layover facility as oils and grease that may accumulate from the layover and idling of multiple trains.

L-092.05

### *Freetown South Main Street Rail Station*

While the access road to the proposed South Main Street Rail station is within the coastal zone, the rail station itself is located just outside the coastal zone. As such, it is not likely to have significant impacts on coastal resources of the Taunton River. However, CZM recommends that non-point pollution from increased impervious areas be treated to the greatest degree possible, including Low-Impact Development techniques to reduce impervious areas where possible.

L-092.06

### *Coastal Zone and Chapter 91*

CZM's review of Section 4.18, Coastal Zone and Chapter 91, of the DEIR/DEIS, raised the following comments and suggestions. The DEIR/DEIS states that future public access to the shoreline may be restricted following construction of a layover facility at any of the three potential layover sites being considered in Fall River. CZM notes that mitigation for the lost public access may be required. The DEIR/DEIS also states that the Fall River Weaver's Cove West Layover Facility Site would likely need to be licensed under Chapter 91 as a temporary use. CZM recommends that the proponent investigate the potential for this facility to qualify for licensing as an accessory to water dependent industrial uses under 310 CMR 9.12(3). This approach to licensing

L-092.07



would allow a longer license term than the 10 year license limit for a temporary use in a DPA. CZM recommends that the project proponent discuss these issues and options with DEP to receive a more definitive determination. | L-092.07

*Air Quality Impacts to Coastal Waters*

The scientific understanding of the role of atmospheric nitrogen compounds, such as NO<sub>x</sub>, on the water quality of coastal embayments has improved in recent years. While the DEIR/DEIS included an air quality study, it did not explicitly discuss whether the various route alternatives, or the electric vs. diesel alternatives had any significant disadvantages or advantages from a nitrogen deposition perspective. CZM recommends that subsequent review documents address the nitrogen deposition to coastal embayments more explicitly. | L-092.08

**Federal Consistency Review**

The proposed project is subject to CZM federal consistency review, which requires that the project be found to be consistent with CZM's enforceable program policies. For further information on this process, please contact Bob Boeri, Project Review Coordinator, at 617-626-1050 or visit the CZM web site at [www.mass.gov/czm](http://www.mass.gov/czm). | L-092.09

BKC/dsj,dd,rlb

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